

ED EX

MID-LEVEL
HEALTH WORKER
TRAINING MODULES

Instructor's
Manual

BASIC CLINICAL
KNOWLEDGE
AND SKILLS:

**Anatomy and
Physiology**
Medical History
**Physical
Examination**





THE MEDEX PRIMARY HEALTH CARE SERIES

After completion of extensive field trials in Micronesia and in primary health care programs in Lesotho, Guyana, Pakistan, and Thailand, the methods and materials of the MEDEX technology have been published as The MEDEX Primary Health Care Series. The Series provides a systematic, practical, adaptable format for management and training in new or existing primary health care programs at all levels.

The 35-volume Series is organized into three major categories of Management Systems Development

Materials, Mid-Level Health Worker Training Materials, and Community Health Worker Training Materials. The Series is appropriately balanced between promotive, preventive, and curative needs in primary health care.

The methods and materials of the MEDEX technology are suitable for national scale programs as well as smaller projects, and can be used in whole or in part as circumstances demand. One of the greatest strengths of the MEDEX technology is its flexibility and sensitivity to local conditions.

VOL.

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- 11, 12 Student Text 13 Instructor's Manual
Anatomy and Physiology
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- 14 Student Text 15 Instructor's Manual
Respiratory and Heart
Gastrointestinal
Genitourinary

- 16 Student Text 17 Instructor's Manual
Skin
Dental, Eyes, Ears, Nose, and Throat

- 18, 19 Student Text 20 Instructor's Manual
Infectious Diseases
Other Common Problems

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- 21 Student Text 22 Instructor's Manual
Prenatal Care
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Postnatal Care

- 23 Student Text 24 Instructor's Manual
Problems of Women
Diseases of Infants and Children
Child Spacing

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- 25 Student Text 26 Instructor's Manual
Working with the Health Team
Working with Support Systems

- 27 Student Text and Instructor's Manual
Supervising and Supporting Mid-Level Health Workers

Reference Manuals

- 28 Formulary
Diagnostic and Patient Care Guides

- 29 Patient Care Procedures

- 30 Health Center Operations

- 31 Community Health

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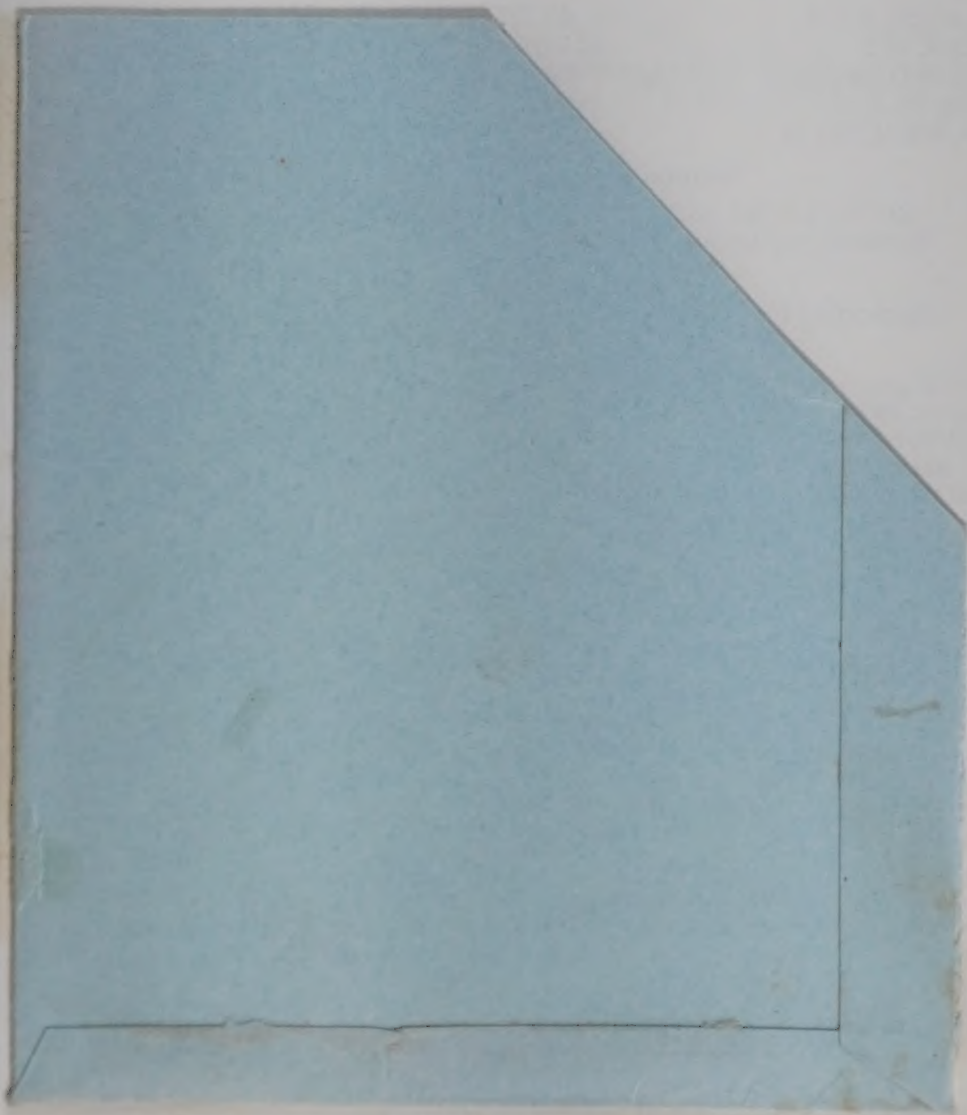
The Community Health Worker Training Materials are designed for training literate and non-literate community health workers to carry out specific tasks. The teaching approach emphasizes dialogue between trainer and trainee. Other methods employed include role-play, demonstrations, stories, and extensive use of visual aids. The materials are geared to practical skill development through maximum interaction with the trainer. The workbooks emphasize promotive and preventive skills, but include selected basic curative skills as well.

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- 32 Introduction to Training
Clean Water and Clean Community
Prevention and Care of Diarrhea
- 33 Healthy Pregnancy
Feeding and Caring for Children
- 34 Some Common Health Problems
Tuberculosis and Leprosy
First Aid
- 35 Community Learning Materials:
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Caring for Your Child
Caring for Your Sick Child
Clean Home and Clean Community
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To order books or to obtain further information on The MEDEX Primary Health Care Series, write:
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ANATOMY AND PHYSIOLOGY



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COMMUNITY HEALTH CELL

The MEDEX Primary Health Care Series

ANATOMY AND PHYSIOLOGY

Instructor's Manual

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TABLE OF CONTENTS

| | |
|--|----|
| SCHEDULE | 8 |
| TEACHING PLAN FOR UNIT 1 | |
| Teaching Plan 1 - Organization of the Body | 11 |
| Answers to Review Questions | 14 |
| TEACHING PLAN FOR UNIT 2 | |
| Teaching Plan 2 - Blood and the Lymph System | 17 |
| Answers to Review Questions | 19 |
| TEACHING PLAN FOR UNIT 3 | |
| Teaching Plan 3 - Skeletal System | 21 |
| Answers to Review Questions | 23 |
| TEACHING PLAN FOR UNIT 4 | |
| Teaching Plan 4 - Muscle System | 28 |
| Answers to Review Questions | 30 |
| TEACHING PLAN FOR UNIT 5 | |
| Teaching Plan 5 - Respiratory System | 32 |
| Answers to Review Questions | 34 |
| TEACHING PLAN FOR UNIT 6 | |
| Teaching Plan 6 - Circulatory System | 36 |
| Answers to Review Questions | 38 |

TEACHING PLAN FOR UNIT 7

| | |
|------------------------------------|----|
| Teaching Plan 7 – Digestive System | 41 |
| Answers to Review Questions | 43 |

TEACHING PLAN FOR UNIT 8

| | |
|----------------------------------|----|
| Teaching Plan 8 – Urinary System | 45 |
| Answers to Review Questions | 47 |

TEACHING PLAN FOR UNIT 9

| | |
|---------------------------------------|----|
| Teaching Plan 9 – Reproductive System | 49 |
| Answers to Review Questions | 51 |

TEACHING PLAN FOR UNIT 10

| | |
|-----------------------------------|----|
| Teaching Plan 10 – Nervous System | 56 |
| Answers to Review Questions | 57 |

TEACHING PLAN FOR UNIT 11

| | |
|-----------------------------|----|
| Teaching Plan 11 – Eyes | 59 |
| Answers to Review Questions | 61 |

TEACHING PLAN FOR UNIT 12

| | |
|---|----|
| Teaching Plan 12 – Ears, Nose, Sinuses, and Mouth | 63 |
| Answers to Review Questions | 64 |

TEACHING PLAN FOR UNIT 13

| | |
|-----------------------------|----|
| Teaching Plan 13 – Skin | 67 |
| Answers to Review Questions | 68 |

TEACHING PLANS FOR UNIT 14

| | |
|-----------------------------------|----|
| Teaching Plan 14 – Hormone System | 69 |
|-----------------------------------|----|

| | |
|-----------------------------|----|
| Answers to Review Questions | 70 |
|-----------------------------|----|

| | |
|---|----|
| Teaching Plan 15 – Reviewing Anatomy and Physiology and Observing an Autopsy | 72 |
|---|----|

SCHEDULE

ANATOMY AND PHYSIOLOGY

| DAY 1 | DAY 2 | DAY 3 | DAY 4 |
|--|---|---|---|
| <p>Introduction to the Anatomy and Physiology module</p> <p>Teaching Plan 1: Organization of the Body</p> <p>Teaching Plan 2: Blood and the Lymph System</p> | <p>Teaching Plan 4: Muscle System</p> <p>Teaching Plan 5: Respiratory System</p> <p>Teaching Plan 6: Circulatory System</p> | <p>Teaching Plan 7: Digestive System</p> <p>Teaching Plan 8: Urinary System</p> <p>Teaching Plan 9: Reproductive System</p> | <p>Teaching Plan 10: Nervous System</p> <p>Teaching Plan 11: Eyes</p> <p>Teaching Plan 12: Ears, Nose, Sinuses, and Mouth</p> <p>Teaching Plan 13: Skin</p> <p>Teaching Plan 14: Hormone System</p> |
| Teaching Plan 3: Skeletal System | | | |

| DAY 5 | DAY 6 | | |
|--|----------|--|--|
| <p>Teaching Plan 15:</p> <p>Group A - Observing an Autopsy</p> <p>Group B - Reviewing Anatomy and Physiology</p> | Posttest | | |
| <p>Group A - Reviewing Anatomy and Physiology</p> <p>Group B - Observing an Autopsy</p> | | | |

Teaching Plan 1

Organization of the Body

OBJECTIVES

1. Define anatomy and physiology.
2. Describe the four basic levels of organization within the body.
3. Describe the organ systems of the body.
4. Identify and locate the areas of the body and the organ systems contained in each area.
5. Define and demonstrate these terms that describe direction in the body:

| | |
|-----------|----------|
| External | Lateral |
| Internal | Medial |
| Anterior | Distal |
| Posterior | Proximal |
6. Explain internal regulation and describe the internal regulation of temperature, water, minerals, pulse, blood pressure, and respiration.

METHODS

Self-instruction, instructor presentation, demonstration, small group work

MATERIALS

Student Text – Unit 1; a human torso model with removable organs including brain, eyes, lungs, heart, liver, stomach, large and small intestines, kidneys, bladder, and exchangeable male and female reproductive organs

PREPARATION

Complete your analysis of pretest results. Divide the class into pairs. Each pair should include a student with a high pretest score and a student with a low pretest score.

Prepare a presentation on the organization of the body. Prepare to locate the areas of the body and

the organ systems on a torso model and on a student volunteer.

Tell the students to read Unit 1 in the Student Text and to answer the review questions.

TIME: 1 hr 20 min

LEARNING ACTIVITIES

| | |
|---|--------|
| 1. Introduce the Anatomy and Physiology module. | 10 min |
| 2. Make a presentation and lead a discussion on the four basic levels of organization in the body. Locate the organ systems on the torso model. | 15 min |
| 3. Describe the areas of the body. Ask for two student volunteers. Ask one student to act as a model. Ask the other student to describe the organ systems in each area of the body as you point to the different areas. | 10 min |
| 4. Make a presentation and lead a discussion on the the body's internal regulation systems. | 15 min |
| 5. Define and demonstrate the terms used to describe direction in the body. Ask the students to stand. Describe a term used to show direction in the body. Have the students show on their own bodies the direction that you described. For example, have the students show you: a. The posterior chest b. The distal part of the upper arm c. The medial part of the knee d. The proximal section of the left middle finger Point to a part of your body. Ask a student to give the term that describes that part of the body. For example, point to the side of your right thigh. The correct response would be "the lateral right thigh." | 15 min |

TIME

Move your hand over the front of your body. The correct response would be “the anterior part of your body.”

6. Assign a student to lead a discussion of the review questions for Unit 1.

15 min

ANSWERS TO REVIEW QUESTIONS

Organization of the Body

1. Anatomy is the study of the structure of the body. Physiology is the study of the functions of the body.
2. List the four basic levels of organization within the body.
 - a. *Cells*
 - b. *Tissues*
 - c. *Organs*
 - d. *Organ systems*
3. TRUE (T) or (FALSE)
 - F A tissue is the smallest functioning unit in the body.
 - T Cells are organized into larger structures in order to perform specific functions.
 - T Organs are made of groups of tissues.
 - F Tissues are responsible for more complex tasks than are organs.
 - T Organ systems are groups of organs that act together to perform particular functions.
4. List eight organ systems.

| | |
|---------------------------------------|-------------------------------|
| a. <i>Skeletal and muscle systems</i> | e. <i>Reproductive system</i> |
| b. <i>Respiratory system</i> | f. <i>Urinary system</i> |
| c. <i>Circulatory system</i> | g. <i>Nervous system</i> |
| d. <i>Digestive system</i> | h. <i>Hormone system</i> |

5. Organ systems are located in particular body areas. List five body areas that contain organ systems.

- a Head*
- b Neck and spinal column*
- c Chest*
- d Abdomen*
- e Pelvis*

6. Match the terms in column A with the definitions in column B. Write the letter of your answer in the space provided.

| <u>A</u> | <u>B</u> |
|--------------------|-------------------------|
| <u>f</u> Anterior | a. Back |
| <u>a</u> Posterior | b. Outside |
| <u>d</u> Lateral | c. Away from the center |
| <u>g</u> Medial | d. Toward the side |
| <u>c</u> Distal | e. Inside |
| <u>b</u> Proximal | f. Front |
| <u>b</u> External | g. Toward the middle |
| <u>e</u> Internal | h. Toward the center |

7. The ability of the body to maintain a relatively unchanging internal environment is called internal regulation.
8. What two organs regulate the temperature of the body?
- a Skin*
 - b Brain*
9. When the body loses fluid rapidly, the blood vessels quickly draw water from the spaces outside the cells. The body can then become dehydrated.
10. When fluid moves from the blood vessels into the spaces outside the cells, a build up of fluid occurs. This is called edema.

11. Minerals are substances that the body needs to grow. The intestines regulate the amount of minerals that the body absorbs. The kidneys regulate the elimination of excess minerals.

12. TRUE (T) or FALSE (F)

T The pulse rate increases whenever enough oxygen is not getting to the cells.

T A normal blood pressure helps keep enough blood flowing through the small blood vessels.

F The brain helps to regulate the rate and depth of breathing so the cells receive enough carbon dioxide and eliminate enough oxygen.

13. Diseases upset the stable environment within the body. What is the goal of health care in this regard?

The goal of health care is to keep the internal environment stable and to reestablish it when it is upset.

Teaching Plan 2

Blood and the Lymph System

| | |
|--------------------|--|
| OBJECTIVES | <ol style="list-style-type: none"> 1. Describe the composition of blood. 2. Describe the structure, function, and production of red blood cells. 3. Explain the function of white blood cells. 4. Describe the four parts of plasma. 5. Explain the function of plasma proteins. 6. Describe the structure and function of the lymph system. 7. Identify and locate the spleen. 8. Identify and locate these lymph glands: in front of the ears, behind the ears, front part of the neck, back part of the neck, under the lower jaw, above the clavicles, under the arms, and at the groin. |
| METHODS | Self-instruction, instructor presentation, demonstration, discussion, drawing, practice locating the spleen and the lymph glands |
| MATERIALS | Student Text- Unit 2, one marking pen with washable ink for every two students |
| PREPARATION | <p>Prepare a short presentation on the blood and the lymph system.</p> <p>Tell the students to read Unit 2 in the Student Text and to answer the review questions.</p> |

TIME: 1 hr 10 min

LEARNING ACTIVITIES

1. Make a presentation and lead a discussion on the blood and the lymph system.

30 min

| | TIME |
|--|--------|
| 2. Locate the spleen and the lymph glands on a student volunteer. | 5 min |
| 3. Divide the class into pairs. Ask the students to draw the spleen on the skin surface of their partners. Check the accuracy of the drawings. Ask the students to locate the lymph glands on their partners. | 20 min |
| 4. The students summarize what they learned during this session. | 5 min |
| 5. Assign one student to lead a discussion of the review questions for Unit 2. | 10 min |

ANSWERS TO REVIEW QUESTIONS

Blood and the Lymph System

1. Name the four parts of the blood.
 - a Red blood cells*
 - b White blood cells*
 - c Platelets*
 - d Plasma*
2. The red blood cell is round in shape.
3. The red color of red blood cells comes from the hemoglobin.
4. The red blood cells contain hemoglobin that carries oxygen from the lungs to the body.
5. The red blood cells are made in the bone marrow.
6. Anemia can be caused by a decrease in the number of red blood cells, or by a lack of hemoglobin.
7. Iron is important in the formation of hemoglobin.
8. Sick cell anemia occurs when the hemoglobin is not normal. The red blood cells become sickle shaped.
9. Name four parts of the plasma.
 - a Water*
 - b Plasma proteins*
 - c Nutrients*
 - d Waste materials*

10. List at least two functions of plasma.
 - a *Help fight infections*
 - b *Keep water in the blood vessels*
 - c *Help clot the blood*

11. What is the function of the white blood cells?
Help protect the body against disease-causing organisms

12. Name the four parts of the lymph system.
 - a *Lymph tubes*
 - b *Lymph fluid*
 - c *Lymph glands*
 - d *Spleen*

13. List the three functions of the lymph system.
 - a *Remove dead cells*
 - b *Remove bacteria*
 - c *Return proteins to the blood*

14. Dead cells and bacteria are taken out of the lymph fluid by the lymph glands .

15. The spleen is located in the left, upper abdomen under the lower ribs .

16. The spleen helps clean dead cells and bacteria from the blood .

Teaching Plan 3

Skeletal System

| | |
|-------------|---|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe the structure and functions of the skeletal system.2. Identify and locate the major bones of the body.3. Describe the function and location of cartilage.4. Describe the structure, function, and movement of joints5. Identify and locate three types of joints.6. Identify and locate the two fontanelles and discuss their value in finding disease in infants. |
| METHODS | Self-instruction, instructor presentation, demonstration, discussion, practice identifying bones and joints |
| MATERIALS | Student Text- Unit 3, skeletal model |
| PREPARATION | <p>Prepare a presentation on the skeletal system.</p> <p>Prepare to identify bones, joints, and joint movements on a skeletal model and on a student volunteer.</p> <p>Tell the students to read Unit 3 in the Student Text and to answer the review questions.</p> |

TIME: 3 hrs 25 min

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Make a presentation and lead a discussion on the skeletal system. | 5 min |
| 2. Using a skeletal model, show and discuss the different shapes and structures of bones. | 10 min |

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| | TIME |
|---|--------|
| 3. Using the model, locate the bones discussed in Unit 3. | 30 min |
| 4. Point to different bones on the skeletal model. Ask individual students to name each bone that you point to. | 10 min |
| 5. Divide the class into pairs. Ask the students to locate the bones discussed in Unit 3 on their partners. | 40 min |
| 6. Discuss the function and location of cartilage. | 5 min |
| 7. Discuss the function of joints. | 5 min |
| 8. Discuss the terms used to describe joint movement. Demonstrate each of the movements on a student volunteer. | 15 min |
| 9. Divide the class into pairs. Ask the students to demonstrate each of the joint movements on their partners. The partners should check the accuracy of the movements using Unit 3 as a guide. | 10 min |
| 10. Discuss the three types of joints. Locate examples of the different types of joints on the skeletal model. | 20 min |
| 11. Divide the class into pairs. Ask the students to describe each of the three types of joints and to locate examples of each type on their partners. | 20 min |
| 12. Locate the fontanelles on the skeletal model. Discuss their value in finding disease in infants. | 5 min |
| 13. Assign one student to lead a discussion of the review questions for Unit 3. | 20 min |
| 14. Students summarize what they learned during this session. | 10 min |

ANSWERS TO REVIEW QUESTIONS

Skeletal System

1. Name the five functions of the skeletal system.

- a Support*
- d Storage of minerals*
- b Movement*
- e Cell production*
- c Protection of organs*

2. Name the four basic types of bones.

- a Long bones*
- c Flat bones*
- b Short bones*
- d Irregular bones*

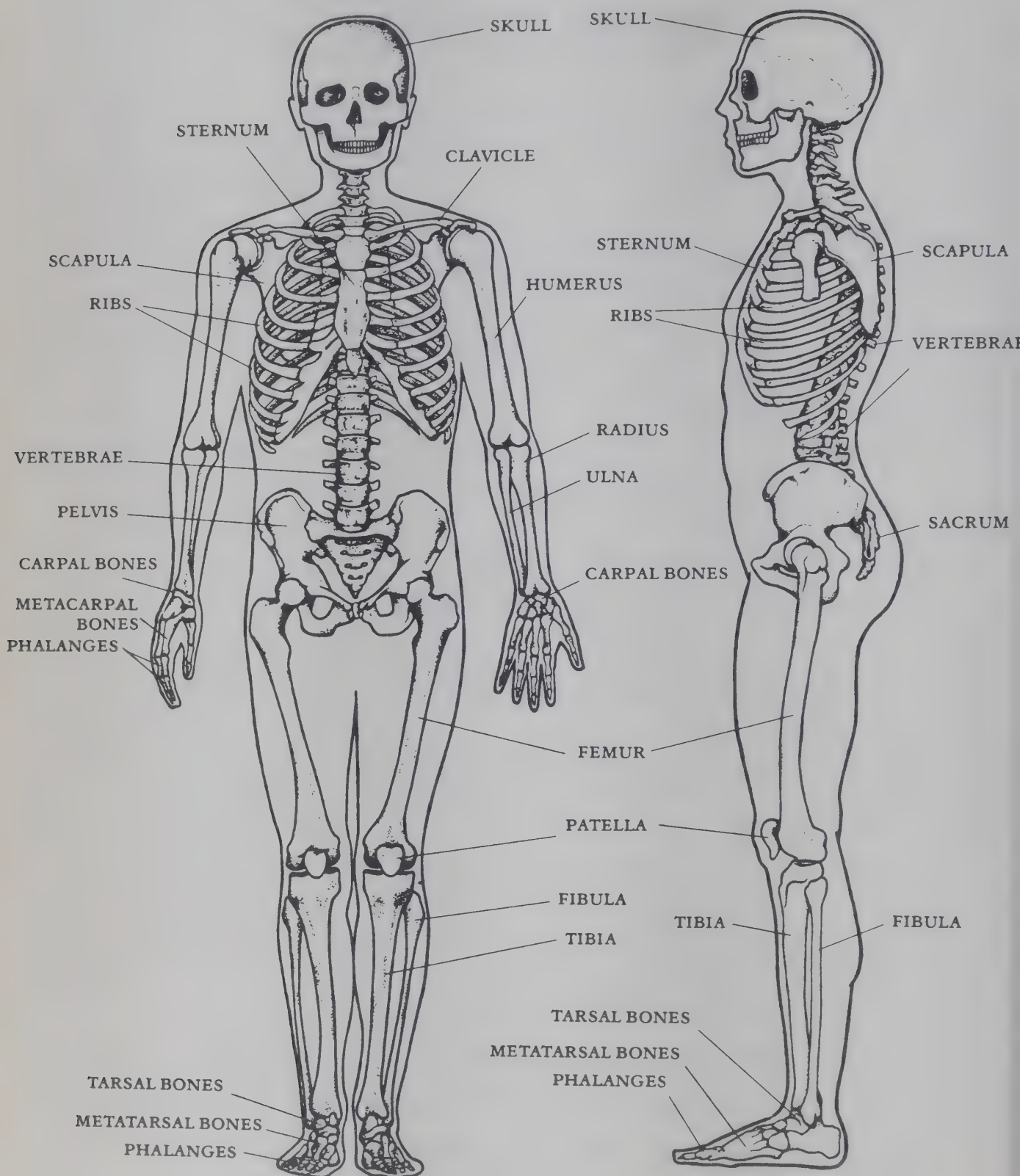
3. Listed below are different bones in the body. Identify the shape of each bone.

- | | | |
|---------------------|-------------------------|----------------------|
| Wrist: <i>short</i> | Skull: <i>flat</i> | Humerus: <i>long</i> |
| Femur: <i>long</i> | Scapula: <i>flat</i> | Tibia: <i>long</i> |
| Ankle: <i>short</i> | Spine: <i>irregular</i> | |

4. TRUE (T) or FALSE (F)

- T Bone cells form bones.
- T Bone marrow is found within the shaft of a long bone.
- T Bone cells are found under the outside layer of long bones.
- F The bone marrow is responsible for healing a broken bone.
- F Broken bones usually heal very quickly.
- T Movement of a broken bone delays healing.
- T Bone cells take minerals out of the blood and use them to form bones.

5. Label the bones on the diagram below.



6. Name the two fontanelles.

a. *Anterior fontanelle*

b. *Posterior fontanelle*

7. Discuss how you can use the fontanelles to detect disease in an infant.

Meningitis or bleeding into the brain increases the pressure in the skull. Increased pressure in the skull makes the fontanelles bulge out. Dehydration causes the fontanelles to sink in.

8. Name five locations where cartilage can be found.

- a At the ends of bones that form joints*
- b Trachea*
- c Larynx*
- d Outer ear*
- e Tip of the nose*

9. Describe one function of cartilage.

Cartilage cushions the joints

10. A joint is the place where two bones join together.

11. Match the terms in column A with the definitions in column B. Write the letter of your answer in the space provided.

| <u>A</u> | <u>B</u> |
|--------------------|---|
| <u>c</u> Flexion | a. Moving a part of the body away from the body |
| <u>e</u> Extension | b. Moving in a circle |
| <u>a</u> Abduction | c. Bending and shortening |
| <u>d</u> Adduction | d. Moving a part of the body toward the body |
| <u>b</u> Rotation | e. Straightening and lengthening |

12. Name the three major categories of joints.

- a Moveable*
- b Partly moveable*
- c Not moveable*

13. Listed below are examples of the ways that joints can move. For each description, give two examples of joints that move in that way.

- a. Joints that allow for flexion, extension, abduction, adduction, and rotation:

Shoulders

Hips

- b. Joints that allow one bone to rotate on another joint:

Neck

Elbows

- c. Joints that allow for circular motion:

Wrists

Thumbs

Joints between the metacarpals and phalanges of the hand and between the metatarsals and phalanges of the feet

- d. Joints that allow for extension and flexion:

Elbows

Knees

Fingers

Toes

- e. Joints that allow bones to glide in several directions:

Wrists

Ankles

14. Partly moveable joints have limited movement. Name at least three partly moveable joints.

a. Joint between the pelvic bones

b. Joints between the vertebrae

c. Joints between the ribs and the spinal column

d. Joints between the ribs and the breast bone

15. Give an example of a joint that is not moveable.

Skull

16. TRUE (T) or FALSE (F)

 F Moveable joints are stronger than immovable joints.

 T The more a joint is able to move, the greater the chance of injury or damage.

 F Joints that are not moveable have the greatest range of movement.

 T Moveable joints are at greater risk of injury or damage than joints that are not moveable.

Teaching Plan 4

Muscle System

| | |
|-------------|--|
| OBJECTIVES | <ol style="list-style-type: none"> 1. List the three types of muscles. 2. Describe the structure and functions of skeletal muscles. 3. Explain what happens to the movement of a muscle if its normal structure or function is changed. |
| METHODS | Self-instruction, instructor presentation, demonstration, discussion, practice observing muscle movement |
| MATERIALS | Student Text – Unit 3, wall chart showing front and back muscles |
| PREPARATION | <p>Prepare a presentation on the muscle system.</p> <p>Tell the students to read Unit 4 in the Student Text and to answer the review questions.</p> |

TIME: 1 hr 20 min

LEARNING ACTIVITIES

| | |
|---|--------|
| 1. Make a presentation and lead a discussion on the muscle system. Use a wall chart to show the location of the muscles. | 20 min |
| 2. Instruct a student volunteer to move different muscles. Start at the head and proceed down his body. Comment on the symmetry of the muscle movement, the work that the muscles do, and the outcomes of the movement. | 10 min |
| 3. Divide the class into pairs. Have them repeat your demonstration. Tell the students to ask their partners to move different muscles, starting | 30 min |

| | TIME |
|--|--------|
| at the head and proceeding down the body. They should notice the types of movements that the different muscles produce. They should also notice if the movements are the same on both sides. | |
| 4. The students summarize what they learned during this session. | 10 min |
| 6. Assign one student to lead a discussion of the review questions for Unit 4. | 10 min |

ANSWERS TO REVIEW QUESTIONS

Muscle System

1. List the three types of muscles.

a. Smooth muscles

b. Heart muscles

c. Skeletal muscles

2. Describe the function of the skeletal muscles.

Skeletal muscles control the movement of the arms, legs, spine, and head.

3. Skeletal muscles are made up of *bundles of muscle tissue*.

4. *Nerves* in each bundle of muscles direct the muscle to move.

5. *Tendons* attach muscles to bones.

6. Movement occurs when muscles *draw together and shorten*.

7. TRUE (T) or FALSE (F)

T Movement would not occur if muscles all relaxed or contracted at the same time.

T The opposite of contraction is relaxation.

F Nerves attach muscles to bones.

F Involuntary muscles can be moved when desired.

T Heart muscle is found only in the heart.

F Heart muscle is an example of a voluntary muscle.

8. In order for a muscle to move well, two conditions must be met. Describe these two conditions.
- a The muscle must be attached at both ends to a bone.*
 - b The nerves must be working well.*
9. When does paralysis of a muscle occur?
- When the nerves in the muscle are not working at all*
10. What happens when paralysis of a muscle occurs?
- The muscle cannot move and will waste away.*

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Teaching Plan 5

Respiratory System

| | | |
|-------------|--|--------------------|
| OBJECTIVES | 1. Describe the structure and functions of the respiratory system. | |
| | 2. Identify and locate the structures of the respiratory system. | |
| | 3. Describe inspiration and expiration. | |
| | 4. Locate these structures and landmarks of the chest: | |
| | Breast bone | Suprasternal notch |
| | Ribs | Sternal angle |
| | Intercostal spaces | Xiphoid process |
| | Scapula | Rib margins |
| | Mid-clavicular lines | |
| METHODS | Self-instruction, instructor presentation, discussion, demonstration, drawing, practice identifying structures of the respiratory system and chest | |
| MATERIALS | Student Text– Unit 2, torso model showing the structures of the respiratory system, one marking pen with washable ink for every two students | |
| PREPARATION | Prepare a presentation on the respiratory system. | |
| | Prepare to locate the structures of the respiratory system and the chest on a torso model and on a student volunteer. | |
| | Tell the students to read Unit 5 in the Student Text and to answer the review questions. | |

TIME: 2 hrs 10 min

LEARNING ACTIVITIES

1. Make a presentation and lead a discussion on the respiratory system.

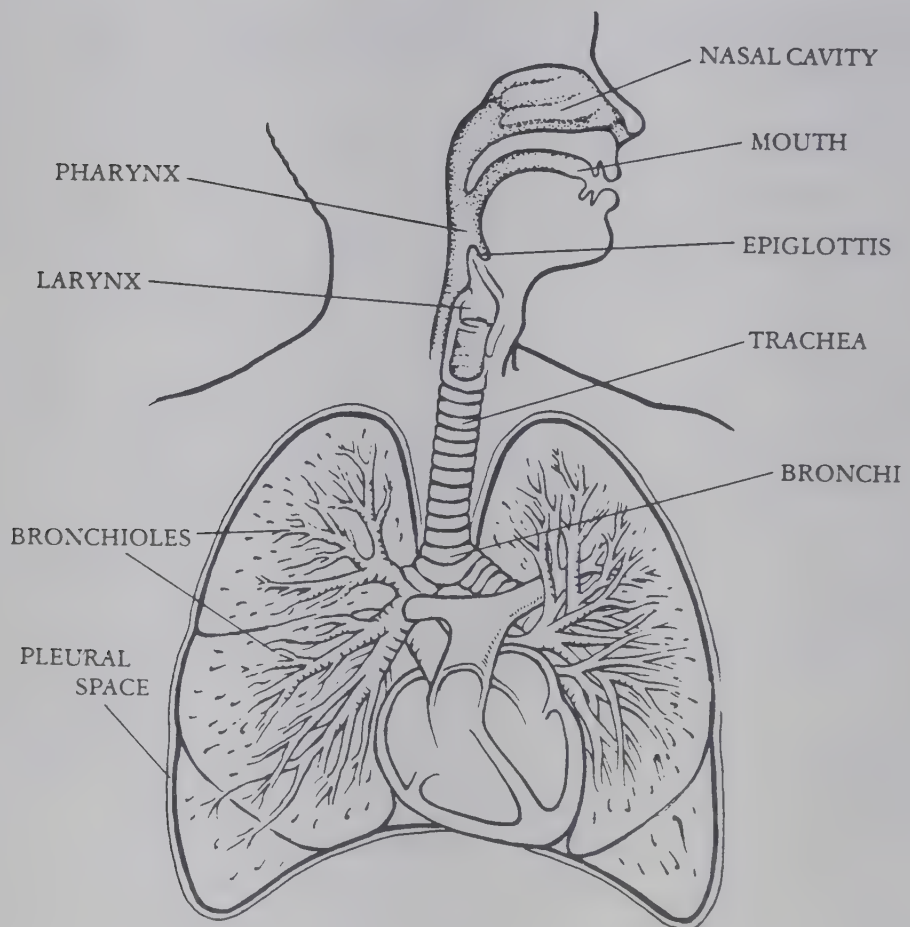
30 min

| | TIME |
|--|--------|
| 2. Locate the structures of the respiratory system on a torso model | 15 min |
| 3. Locate the structures of the respiratory system and the landmarks of the chest on a student volunteer. | 15 min |
| 4. Divide the class into pairs. Ask the students to locate and draw the trachea, bronchi, lungs, and diaphragm on the skin surface of their partners. They should also locate the structures and landmarks of the chest. Check the accuracy of the drawings. | 60 min |
| 5. Assign a student to lead a discussion of the review questions for Unit 5. | 10 min |

ANSWERS TO REVIEW QUESTIONS

Respiratory System

1. The cells of the body use oxygen to live and grow.
2. The cells produce a harmful waste product called carbon dioxide.
3. Label the structures of the respiratory system on the diagram.



4. When a person breathes in air, the air passes through many structures. List the structures that the air passes through. Start with the nose and end with the red blood cells.

Nose → throat → larynx → trachea → bronchi → bronchioles → alveoli → capillaries → red blood cells

5. Describe the two functions of the respiratory system.
- a. *Provides a pathway for air to enter and leave the body*
 - b. *Ensures that the air that reaches the lungs is warm, clean, and moist*
6. Breathing in air is called inspiration. Blowing out air is called expiration.
7. The diaphragm and the muscles between the ribs cause the lungs to expand and to shrink. Answer these questions about the diaphragm and the muscles between the ribs.
- a. What is the diaphragm? Where is it located?
The diaphragm is a thick muscle that is located below the lungs.
 - b. What causes the lungs to expand?
The diaphragm pulling down causes the lungs to expand.
 - c. What happens to the ribs when the muscles between the ribs contract?
They pull up.
 - d. What do the lungs do when the chest grows larger?
The lungs expand, causing air to be pulled in.
 - e. How does the diaphragm force air out of the lungs?
It lifts up.
 - f. How do the muscles between the ribs help force air out of the lungs?
They relax.

Teaching Plan 6

Circulatory System

| | |
|--------------------|--|
| OBJECTIVES | <ol style="list-style-type: none"> 1. Describe the structure and functions of the circulatory system. 2. Describe the systemic and pulmonary circulation of the blood. 3. Define and discuss these ways of measuring the function of the circulatory system: <ul style="list-style-type: none"> Heart sounds Blood pressure Pulse 4. Define edema and explain how it occurs. 5. Identify and locate the heart and the pulse points. |
| METHODS | Self-instruction, instructor presentation, demonstration, discussion |
| MATERIALS | Student Text– Unit 6; torso model; wall chart showing the location of the heart, arteries, and veins; one marking pen with washable ink for every two students. |
| PREPARATION | <p>Prepare a presentation on the circulatory system.</p> <p>Prepare to locate the heart and the pulse points on a student volunteer.</p> <p>Tell the students to read Unit 6 in the Student Text and to answer the review questions.</p> |

TIME: 2 hrs

| | |
|--|--------|
| LEARNING ACTIVITIES <ol style="list-style-type: none"> 1. Make a presentation and lead a discussion on the circulatory system. Use a wall chart of the | 30 min |
|--|--------|

| | TIME |
|--|--------|
| circulatory system to locate the arteries and veins and to show the direction of the flow of blood. | |
| 2. Use a torso model to locate the heart. | 5 min |
| 3. Locate the heart and the pulse points on a student volunteer. | 10 min |
| 4. Divide the class into pairs. Tell the students to draw the heart on the chest surface of their partners. Check the accuracy of the drawings. Tell the students to locate the pulse points on their partners. Tell the students to describe the flow of blood from the left side of the heart to the right side, and then from the right side to the left. | 40 min |
| 5. In a large group session, ask one student to locate the pulse points on another student. The class should discuss the locations chosen by the student. | 10 min |
| 6. Choose two students for a demonstration. Ask one student to describe the flow of blood from the left side of the heart to the right side of the heart using the wall chart of the circulatory system. Ask the other student to describe the flow of blood from the right side to the left. Have the class comment on their descriptions. | 10 min |
| 7. Assign a student to lead a discussion of the review questions for Unit 6. | 15 min |

ANSWERS TO REVIEW QUESTIONS

Circulatory System

1. Name the two structures of the circulatory system.

a. Heart

b. Blood vessels

2. TRUE (T) or FALSE (F)

 T The heart is a pump.

 T The heart is located between the lungs and behind the breast bone.

 F The lower chambers of the heart are called the atria.

 T Capillaries connect arteries and veins.

 F The pressure inside the capillaries is very high.

 F Blood spurts out when a vein is cut.

3. Name the three kinds of blood vessels.

a. Arteries

b. Veins

c. Capillaries

4. Match the definitions in column A with the terms in Column B. Write the letter of your answer in the space provided. You may use the terms more than once.

 A
 b Blood vessel that returns blood to the heart

 a Blood vessel that takes blood away from the heart

 B
a. Artery
b. Vein
c. Capillary

- c Blood vessel that connects arteries to veins
- c Blood vessel that carries the blood to pick up waste products
- a Blood vessel felt when taking the pulse

5. What is edema?

Water leaking into the tissues

6. List two causes of edema.

a Injury to the capillaries

b Low plasma proteins

7. Describe the flow of blood from the left side of the heart to the right side of the heart.

Blood comes from the lungs in the pulmonary veins to the left atrium and then is pushed into the left ventricle. The blood is forced from the left ventricle into the arteries. The arteries carry the blood to the capillaries in all the body tissues. From the capillaries the blood goes to the veins and then to the right side of the heart.

8. Describe the flow of blood from the right side of the heart to the left side of the heart.

From the right atrium, the blood goes to the right ventricle. The right ventricle pushes blood into the pulmonary artery. The pulmonary artery carries the blood to the capillaries of the lungs. The pulmonary veins bring the blood back from the lungs to the left atrium.

9. What causes the heart sounds?

The closing of the four valves between the chambers of the heart cause the heart sounds

10. What is the pulse?

The pulse is waves of pressure that spread along the arteries each time the heart contracts

11. The pulse depends on the rate of the heart beat and on the volume of blood that the heart pumps.
12. Name at least three areas where you can feel the pulse.
- a Neck*
 - b Inside of the arm*
 - c Groin*
 - d Wrist*
13. The blood pressure is the force of the heart's contractions. It is usually measured in the arteries. Answer these questions about the blood pressure.
- a. What is the systolic pressure?
- Systolic pressure is the pressure in the arteries when the ventricles contract and pump blood out of the heart.*
- b. What is the diastolic pressure?
- Diastolic pressure is the pressure in the arteries when the ventricles relax.*
- c. Normal blood pressure is 120/80.
- Which number is the systolic pressure? 120
- Which number is the diastolic pressure? 80
14. Name four factors that affect the blood pressure.
- a Heart rate*
 - b Volume of blood*
 - c Volume of the circulatory system*
 - d Salt*

Teaching Plan 7

Digestive System

| | |
|--------------------|---|
| OBJECTIVES | <ol style="list-style-type: none"> 1. Describe the structure and functions of the digestive system. 2. Identify and locate the structures of the digestive system. 3. Identify and locate the boundaries and areas of the abdomen using these terms: <ul style="list-style-type: none"> Upper right and left quadrant Lower right and left quadrant Epigastric area Umbilical area Suprapubic area |
| METHODS | Self-instruction, instructor presentation, demonstration, discussion, drawing, practice identifying the structures of the digestive system |
| MATERIALS | Student Text – Unit 7, torso model, one marking pen with washable ink for every two students |
| PREPARATION | <p>Prepare a presentation on the digestive system.</p> <p>Prepare to locate the structures of the digestive system and the areas of the abdomen on a torso model and on a student volunteer.</p> <p>Tell the students to read Unit 7 in the Student Text and to answer the review questions.</p> |

TIME: 2 hrs

LEARNING ACTIVITIES

1. Make a presentation and lead a discussion on the structure and functions of the digestive system.

30 min

| | TIME |
|--|--------|
| Identify the structures of the digestive system on a torso model | |
| 2. Draw the structures of the digestive system on the skin surface of a student volunteer. Locate the areas of the abdomen. | 20 min |
| 3. Ask the students to work in pairs. Tell them to draw the structures of the digestive system on the skin surface of their partners. Tell them to also locate the areas of the abdomen. Check the accuracy of the drawings. | 40 min |
| 4. Ask for a student volunteer to identify the areas of the abdomen for the class. | 10 min |
| 5. Assign a student to lead a discussion of the review questions for Unit 7. | 20 min |

ANSWERS TO REVIEW QUESTIONS

Digestive System

1. Name the three main functions of the digestive system.

a Digestion

b Absorption

c Elimination

2. The breaking down of food is called digestion.

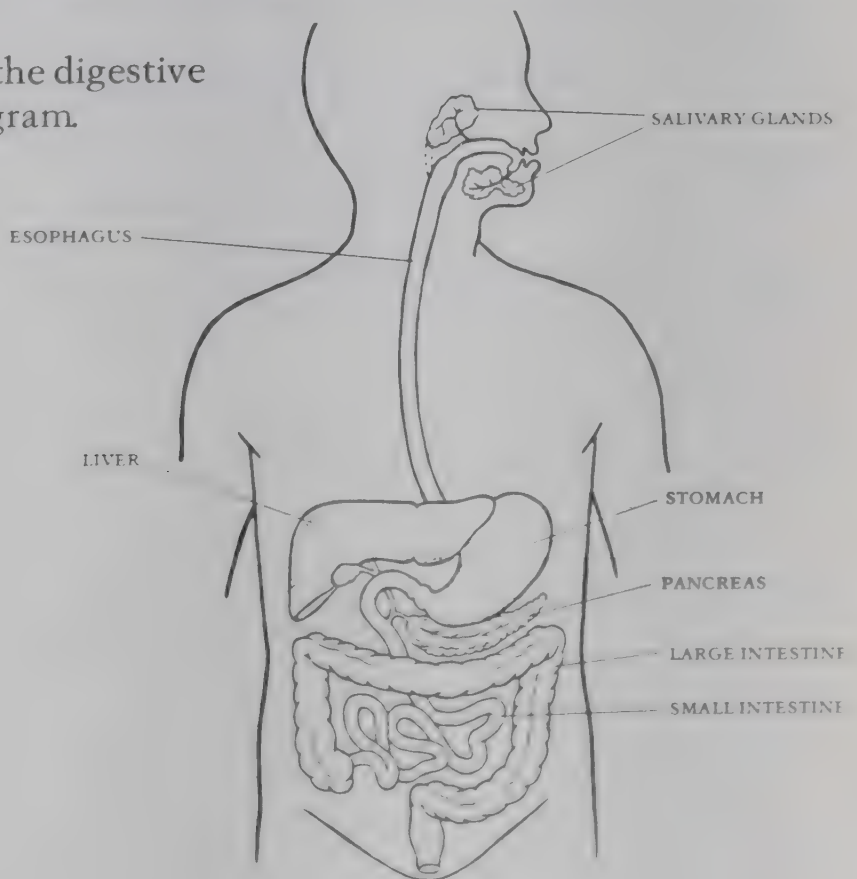
3. Moving digested food from the digestive tract to the blood is called absorption.

4. Ridding the body of undigested food is called elimination.

5. What is the digestive tract?

The digestive tract is a long tube that begins at the mouth and ends at the anus

6. Label the parts of the digestive system on the diagram.



7. Briefly describe the functions of these structures or organs in the digestive system.
- a. Mouth: *In the mouth, food is broken down into smaller pieces and mixed with fluids. Chemicals are added that begin digestion by changing foods into simpler forms*
 - b. Stomach: *The stomach churns and mixes food. The stomach secretes acids and other chemical substances that help digest food*
 - c. Small intestine: *Most of the digestion and absorption of food takes place in the small intestine*
 - d. Liver: *The liver changes nutrients into chemical substances that the body cells need to live and grow. The liver also removes harmful waste products from the blood*
 - e. Large intestine: *The large intestine collects waste products and moves them toward the anus to be eliminated from the body.*
8. TRUE (T) or FALSE (F)
- T The abdomen extends from the diaphragm to the pelvic bones.
 - F The abdomen can be divided into three areas called quadrants.
 - F The epigastric area is just above the pubic bone.
 - T The area around the navel is called the umbilical area.
 - F The liver is located in the lower part of the abdomen.

Teaching Plan 8

Urinary System

| | |
|--------------------|--|
| OBJECTIVES | <ol style="list-style-type: none"> 1. Describe the structure and functions of the urinary system. 2. Identify and locate the parts of the urinary system. |
| METHODS | Self-instruction, instructor presentation, discussion, demonstration, practice locating structures of the urinary system |
| MATERIALS | Student Text – Unit 8, one washable marking pen for every two students, torso model |
| PREPARATION | <p>Prepare a presentation on the urinary system.</p> <p>Prepare to locate the parts of the urinary system on a torso model and on a student volunteer.</p> <p>Tell the students to read Unit 8 in the Student Text and to answer the review questions.</p> |

TIME: 1 hr 40 min

LEARNING ACTIVITIES

| | |
|--|--------|
| 1. Make a presentation and lead a discussion on the urinary system. | 30 min |
| 2. Identify and locate the parts of the urinary system on a torso model and on a student volunteer. | 15 min |
| 3. Ask the students to work in pairs. Tell them to draw the kidneys and the ureters on the skin surface of their partners. Check the accuracy of the drawings. | 30 min |

| | TIME |
|---|--------|
| 4. Ask for a student volunteer to locate the parts of the urinary system for the class. | 10 min |
| 5. Assign a student to lead a discussion of the review questions for Unit 8. | 15 min |

ANSWERS TO REVIEW QUESTIONS

Urinary System

1. Name the two functions of the urinary system.

- a The urinary system removes waste products that are released into the blood by the cells of the body.*
- b The urinary system regulates the amount of water and minerals that are carried in the blood.*

2. Name the four parts of the urinary system.

- a Kidney*
- b Ureters*
- c Bladder*
- d Urethra*

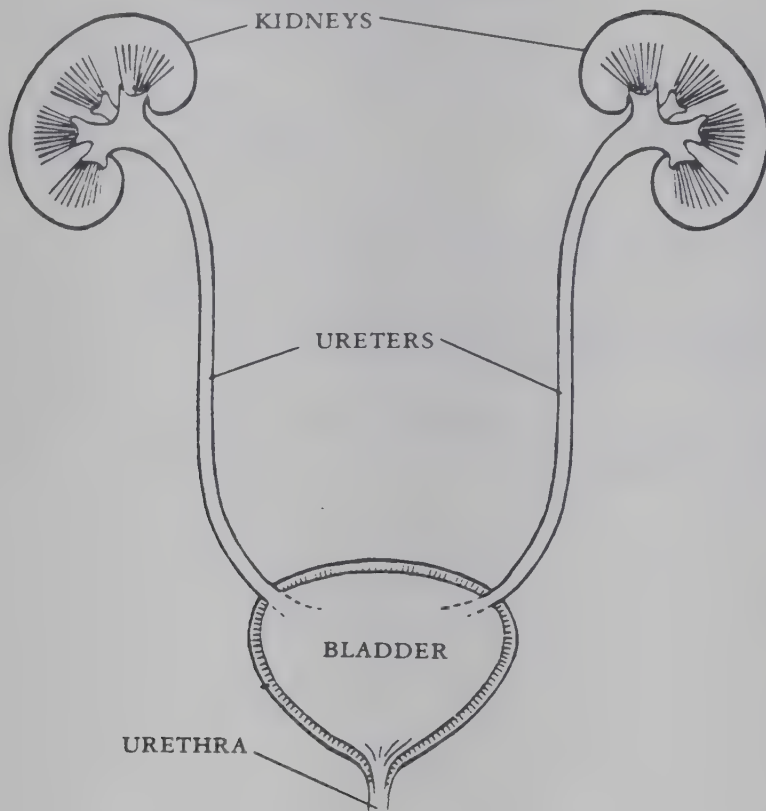
3. The kidneys produce urine. The other structures in the urinary system transport and store urine.

4. The fluid and waste material that is made in the kidneys is called urine.

5. Describe the production and transport of urine.

The fluid in the blood passes through the capillaries of the kidneys and collects in small sacs. Connected to each sac is a tiny kidney tube, or tubule. Waste products from the blood remain in the kidney tubules. The waste materials, called urine, pass from the kidney tubules to the ureters and into the bladder. The urine fills up the bladder. A person empties his bladder through the urethra.

6. Label the diagram of the urinary system.



7. TRUE (T) or FALSE (F)

- T As the cells use oxygen and food, they release many harmful waste products into the blood.
- T The urinary system removes waste products from the blood.
- F The bladder produces urine.
- T The kidneys clean the blood of waste products and poisons.
- T The bladder is a sac to store urine.

Teaching Plan 9

Reproductive System

| | |
|-------------|--|
| OBJECTIVES | <ol style="list-style-type: none"> 1. Describe the structure and functions of the male reproductive system. 2. Describe the structure and functions of the female reproductive system and the breasts. 3. Identify and locate the structures of the male reproductive system. 4. Identify and locate the structures of the female reproductive system. |
| METHODS | Self-instruction, instructor presentation, discussion, demonstration |
| MATERIALS | Student Text – Unit 9, torso model |
| PREPARATION | <p>Prepare a presentation on the reproductive system.</p> <p>Tell the students to read Unit 9 in the Student Text and to answer the review questions.</p> |

TIME: 2 hrs

LEARNING ACTIVITIES

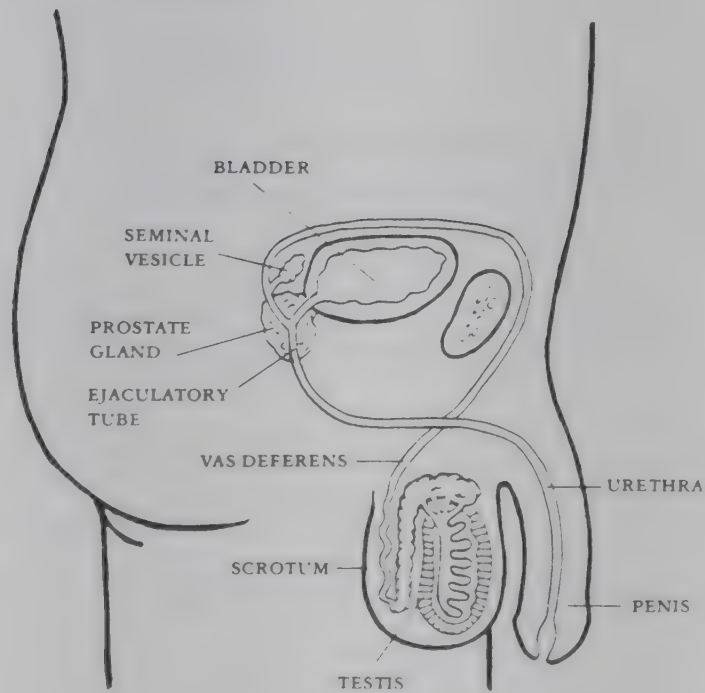
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|---|--------|
| 1. Make a presentation and lead a discussion on the structure and functions of the male reproductive system. Locate the structures of the male reproductive system on a torso model | 20 min |
| 2. Point to different parts of the male reproductive system on the torso model. Ask students to name the structures and their functions | 20 min |
| 3. Make a presentation and lead a discussion on the structure and functions of the female reproductive system. Locate the structures of the female reproductive system on the torso model | 20 min |

| | TIME |
|--|--------|
| 4. Point to different parts of the female reproductive system on the torso model. Ask students to name the structures and their functions. | 20 min |
| 5. Discuss the hormones of the reproductive system, and the structure and function of the breasts. | 20 min |
| 6. Assign a student to lead a discussion of the review questions for Unit 9. | 20 min |

ANSWERS TO REVIEW QUESTIONS

Reproductive System

1. Label the parts of the male reproductive system on the diagram.



2. Match the terms in column A with the descriptions in column B. Write the letter of your answer in the space provided.

A

b Testes

c Scrotum

B

- a. Produces mucus that mixes with milky fluid from the prostate gland and sperm from the testes

f Vas deferens

g Prostate gland

a Seminal vesicles

d Ejaculatory tube

e Urethra

b. Produce sperm

c. Sac of skin that hangs below and behind the penis

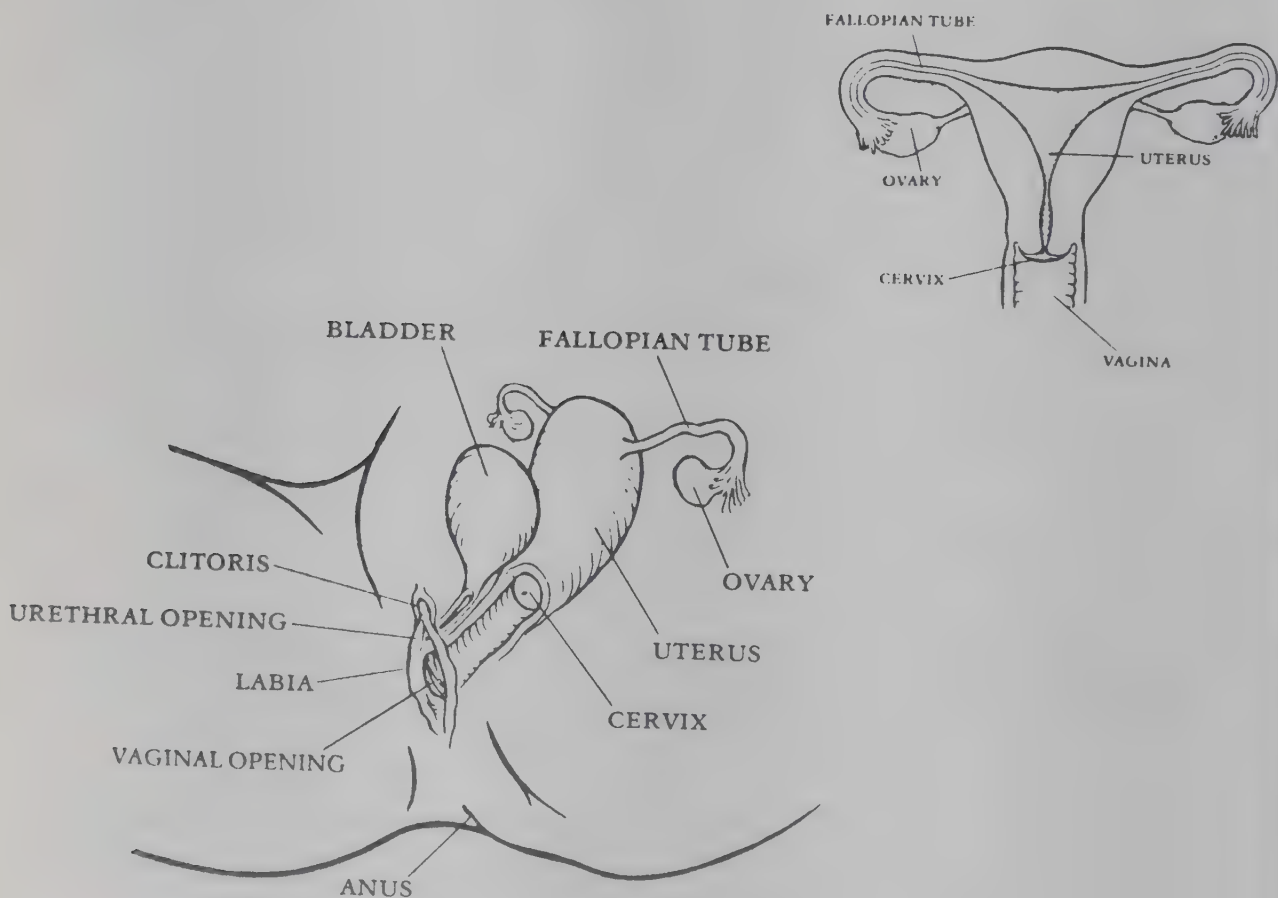
d. Formed inside the prostate gland by the tube from the seminal vesicles and the vas deferens

e. Part of the urinary system and the reproductive system

f. Coiled tube that runs up from the testes, into the pelvis, and over the bladder to enter the prostate gland

g. Produces a milky substance that is part of semen

3. Label the parts of the female reproductive system on the diagram.



4. The vagina is a tube that lies between the urethra and the rectum. Describe the two functions of the vagina.
 - a *The vagina receives the man's penis during intercourse.*
 - b *The vagina forms part of the birth canal.*

5. The folds of skin that surround the vaginal opening are called the labia.

6. The uterus is located in the pelvis above and behind the bladder. Answer these questions about the uterus.
 - a What is the lower end of the uterus called?
Cervix
 - b What is the normal size of the uterus?
Size of a woman's fist
 - c The uterus is lined with mucous membranes that change according to the menstrual cycle.
 - d The muscles of the uterus allow the uterus to expand during pregnancy and to contract during delivery.

7. TRUE (T) or FALSE (F)
 - F Women normally have one fallopian tube.
 - F The fallopian tubes produce the female reproductive cells called ova.
 - T Ova are produced in and released from the ovaries.
 - T The ovaries alternate in releasing an ovum about once a month.
 - T The ova are picked up by finger-like projections at the ends of the fallopian tubes.

8. The joining of an ovum and a sperm cell in a fallopian tube is called fertilization.

9. Where does a fertilized ovum attach?
To the wall of the uterus

10. What happens to the lining of the uterus if fertilization does not occur?

Menstruation occurs and the lining is shed

11. When each month does menstruation usually start?

About fourteen days after ovulation

12. What is the menstrual cycle?

The period from the start of menstruation in one month until the start of menstruation the next month

13. Testosterone is the main hormone of the male reproductive system.

14. Estrogen and progesterone are the main hormones of the female reproductive system.

15. Where is the hormone of the male reproductive system produced?

In the testes

16. Name two functions of the male reproductive system hormone.

a. Production and development of sperm

b. Development of male sex characteristics

17. Where are the hormones of the female reproductive system produced?

a. Estrogen is produced by the ovaries

b. Progesterone is produced by the ovaries and the placenta

18. Name at least one function for each of the female reproductive system hormones.

a. Estrogen controls the development of an ovum each month

b. Estrogen controls the changes that occur during the menstrual cycle

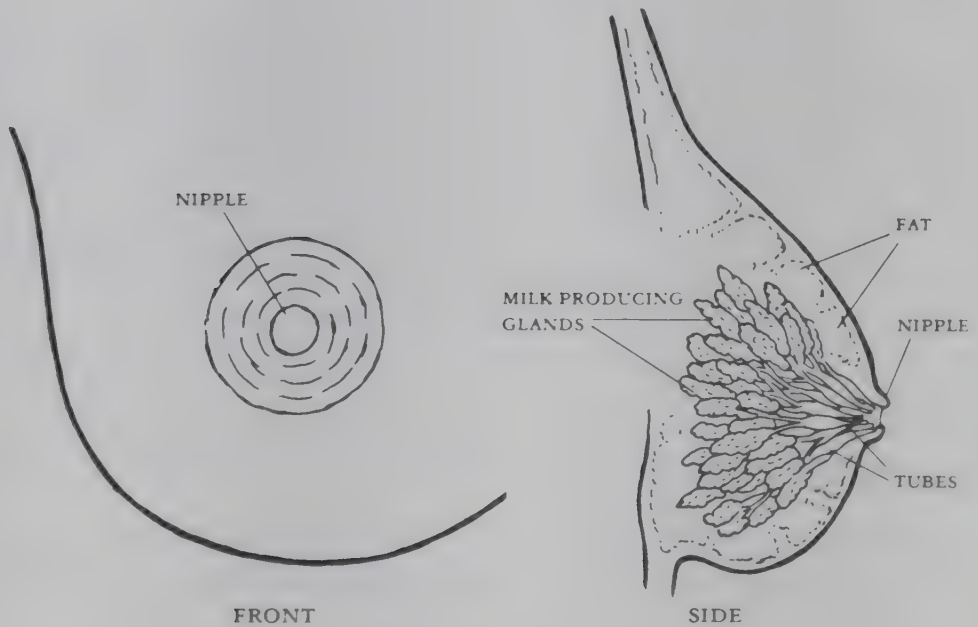
- c *Estrogen is responsible for the development of female sex characteristics.*
- d *Progesterone helps to maintain pregnancy.*

19. The ending of menstrual cycles is called menopause.

20. Name one function of the breasts.

Milk production

21. Label the diagram of a breast.



Teaching Plan 10

Nervous System

| | |
|-------------|--|
| OBJECTIVE | Describe the structure and functions of the nervous system. |
| METHODS | Self-instruction, instructor presentation, discussion, demonstration |
| MATERIALS | Student Text – Unit 10, torso model |
| PREPARATION | <p>Prepare a presentation on the structure and functions of the nervous system.</p> <p>Tell the students to read Unit 10 in the Student Text and to answer the review questions.</p> |

TIME: 1 hr 10 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Make a presentation and lead a discussion on the structure and functions of the nervous system. | 30 min |
| 2. Ask individual students to identify the structures of the central nervous system and to describe the function of each structure. Ask students to describe the functions of the peripheral nervous system. | 20 min |
| 3. Assign a student to lead a discussion of the review questions for Unit 10. | 20 min |

ANSWERS TO REVIEW QUESTIONS

Nervous System

1. Name the two functions of the nervous system.
 - a *The nervous system sends messages to and receives messages from all parts of the body.*
 - b *The nervous system coordinates all of the body's activities*
2. The nervous system consists of two systems. Name these two systems.
 - a *Central nervous system*
 - b *Peripheral nervous system*
3. The brain and the spinal cord are made up of nerve tissue.
4. Nerve tissue is made up of nerve cells. What is the function of nerve cells?
Nerve cells send and receive messages.
5. The brain is divided into three parts. Each part controls different activities within the body. Describe the function of each part of the brain.
One part controls activities such as walking, talking and writing. The second part maintains balance and body coordination. The third part controls automatic regulation of the body systems
6. The spinal cord is a long, narrow structure that extends from the brain to the end of the spine.
7. What protects the spinal cord?
The vertebrae and the fluid that surrounds the spinal cord and the brain protect the spinal cord.

8. Name two functions of the spinal cord

- a. The spinal cord carries messages from the brain to the body.*
- b. The spinal cord carries messages from the body to the brain.*

9. What is the function of the fluid that surrounds the brain and the spinal cord?

It protects the brain and spinal cord by cushioning them against injury.

10. What can happen if the fluid that surrounds the brain becomes infected or if there is bleeding into the fluid?

Infection or bleeding can increase the pressure of the fluid on the brain.

11. Name two types of nerves. Give at least one function of each type of nerve.

- a. Sensory nerves – Carry messages to the brain from the skin and organs. Some respond to pain, some to touch and some to vibration.*
- b. Motor nerves – Carry messages from the brain to the muscles and organs of the body. Messages from the motor nerves cause the muscles to contract. Motor nerves help maintain muscle tone.*

12. Name three sensory organs.

- a. Eyes*
- b. Ears*
- c. Nose*

Teaching Plan 11

Eyes

| | |
|-------------|---|
| OBJECTIVES | 1. Describe the structure and functions of the eyes. 2. Identify and locate the structures of the eye. |
| METHODS | Self-instruction, instructor presentation, discussion, demonstration |
| MATERIALS | Student Text– Unit 11, eye model |
| PREPARATION | Prepare a presentation on the structure and functions of the eye. Prepare to locate the structures of the eye on a diagram, an eye model, and a student volunteer. Tell the students to read Unit 11 in the Student Text and to answer the review questions. |

TIME: 1 hr 25 min

LEARNING ACTIVITIES

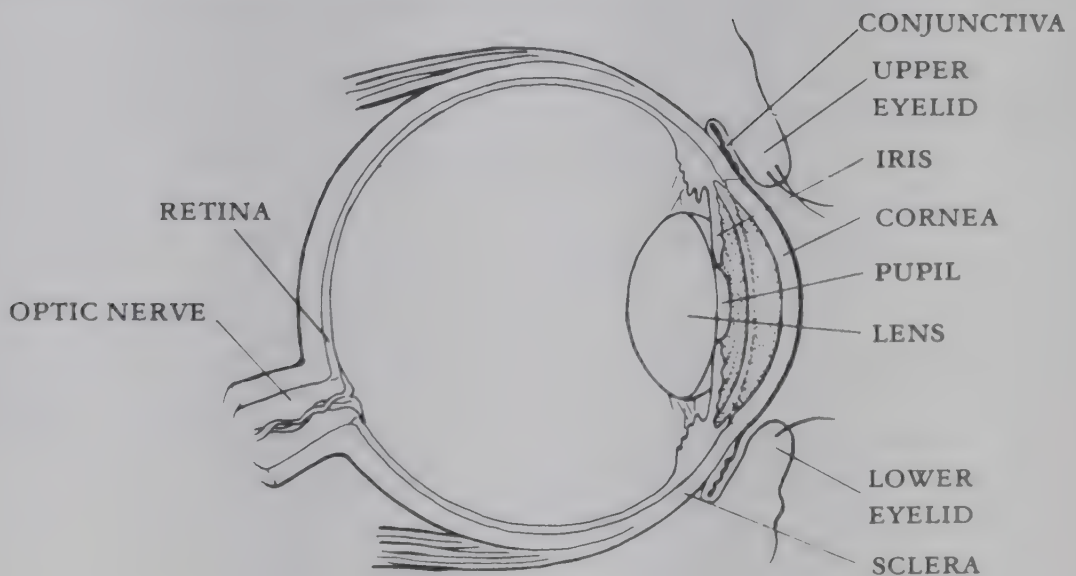
| | |
|---|--------|
| 1. Make a presentation and lead a discussion on the structure and functions of the eye. Locate the structures of the eye on an eye model. | 30 min |
| 2. Locate the exterior structures of the eye on a student volunteer. | 10 min |
| 3. Ask for a student volunteer to show the structures of the eye on an eye model and to show the exterior structures on another student. | 10 min |

| | TIME |
|---|--------|
| 4. Ask the students to work in pairs. Tell them to locate the exterior structures of the eye on their partners. | 20 min |
| 5. Assign a student to lead a discussion of the review questions for Unit 11. | 15 mi |

ANSWERS TO REVIEW QUESTIONS

Eyes

1. Label the diagram of the eye.



2. Name at least one function for each of these parts of the eye.

Eyelid: *Protects the eye from injury*

Blinking of the eyelids spreads tears

Tear glands: *Produce tears that keep the eyes moist and clean*

Retina: *Responds to light and allows you to see*

Changes light into sight messages

Conjunctiva: *Produces mucus that allows the eyelid to slide smoothly over the eye*

Pupil: *Changes size to control the amount of light that enters the eye*

Lens: *Adjusts automatically to light to allow you to see objects at different distances*

Focuses light

Optic nerve: *Carries sight messages from the retina to the brain*

3. The eye collects light from objects in the environment. This enables you to see. Chart the structures that light passes through from the environment to the brain.

Environment → cornea → pupil → lens → retina → optic nerve → brain

Teaching Plan 12

Ears, Nose, Sinuses, and Mouth

| | |
|-------------|--|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe the structures and functions of the ears, nose, sinuses, and mouth.2. Identify and locate the structures of the ears, nose, sinuses, and mouth. |
| METHODS | Self-instruction, instructor presentation, discussion, demonstration |
| MATERIALS | Student Text – Unit 12, model of the head |
| PREPARATION | <p>Prepare a presentation on the structures and functions of the ears, nose, sinuses, and mouth. Prepare to locate the structures of the ears, nose, sinuses, and mouth on a model of the head.</p> <p>Tell the students to read Unit 12 in the Student Text and to answer the review questions.</p> |

TIME: 1 hr 10 min

LEARNING ACTIVITIES

| | |
|--|--------|
| 1. Make a presentation and lead a discussion on the ears, nose, sinuses, and mouth. Locate the different areas on a model of the head as you give your presentation. | 30 min |
| 2. Point to different structures of the ears, nose, sinuses, and mouth on a model of the head, and ask individual students to identify the structures. | 30 min |
| 3. Assign a student to lead a discussion of the review questions for Unit 12. | 10 min |

ANSWERS TO REVIEW QUESTIONS

Ears, Nose, Sinuses, and Mouth

1. What is the function of the ears?

The ears receive sound messages and send them to the brain.

2. Name the three parts of the ear.

- a Outer ear*
- b Middle ear*
- c Inner ear*

3. What are sound waves?

Rapid vibrations transmitted by air or bone

4. The ears collect sound waves and send them to the brain so that you can hear. What is the path of the sound waves from the environment to the brain?

Environment → outer ear → ear canal → eardrum → middle ear → nerves → brain

5. What is one function of the fine hairs that line the ear canals?

The hairs flush ear wax down the canal and out of the ear. This flushing helps to keep the ears clean.

6. The middle ear is filled with air.

7. The small air passageway that extends from the middle ear to the pharynx is called the eustachian tube. What is the purpose of this small air passageway?

The eustachian tube helps keep the pressure in the middle ear equal to the outside pressure.

8. Directly behind each ear lobe is a hollow bone with many air pockets. What are these bones called?

Mastoid bones

9. What are the two functions of the nose?

a The nose is the organ of smell.

b The nose cleans, warms, and moistens the air that is breathed.

10. The nose is divided into right and left nostrils by the nasal septum.

11. The inside of the nose leads into the upper part of the throat.

12. What are the two functions of the sinuses?

a The sinuses lighten the bones of the skull.

b The sinuses affect the quality of the voice.

13. Name the two main sinuses.

a Frontal

b Maxillary

14. Name five structures of the mouth. Name one function of each structure.

a Lips: Bring food into the mouth and shape the mouth for speaking

b Cheeks: Help in eating

c Tongue: Organ for taste. Moves food around during chewing. Pushes food into the throat for swallowing. Helps shape the mouth for speaking.

d Salivary glands: Produce fluid called saliva that moistens and softens food and helps keep the mouth moist

e Teeth: Chew food

15. Give the location of three of the salivary glands.

- a. In front of the ears*
- b. Below the tongue*
- c. Inner side of the lower jaw*

16. The adult has thirty-two teeth.

17. Listed below are the different types of teeth. Give the number of each type of tooth in an adult. Give the function of each type.

| TYPE OF TOOTH | NUMBER | FUNCTION |
|---------------|--------|--------------------------|
| Incisor | 8 | <i>Cut and tear food</i> |
| Canine | 4 | <i>Cut and tear food</i> |
| Bicuspid | 8 | <i>Grind food</i> |
| Molar | 12 | <i>Grind food</i> |

18. Name the parts of the tooth.

- a. Crown*
- b. Neck*
- c. Root*

19. What is the function of the gums?

- a. Cushion the teeth*
- b. Hold the teeth firmly in place*

Teaching Plan 13

Skin

| | |
|-------------|--|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe the structure and functions of the skin.2. Identify and locate the structures of the skin.3. Explain how skin is replaced.4. Describe subcutaneous tissue. |
| METHODS | Self-instruction, instructor presentation, demonstration, discussion |
| MATERIALS | Student Text – Unit 13, wall chart or model of the skin |
| PREPARATION | <p>Prepare a presentation on the skin. Prepare to locate the structures of the skin and the subcutaneous tissue on a wall chart or a model of the skin.</p> <p>Tell the students to read Unit 13 in the Student Text and to answer the review questions.</p> |

TIME: 50 min

LEARNING ACTIVITIES

| | |
|---|--------|
| 1. Make a presentation and lead a discussion on the structure and functions of the skin. Locate the structures of the skin on a wall chart or a model of the skin. | 20 min |
| 2. Point to different structures on the wall chart. Ask individual students to identify the structures. Then reverse the exercise. Name a structure and ask students to locate that structure on the wall chart or model. | 20 min |
| 3. Assign a student to lead a discussion of the review questions for Unit 13. | 10 min |

ANSWERS TO REVIEW QUESTIONS

Skin

1. The skin is made up of two layers. Name these two layers. Name at least one structure contained in each layer.
 - a. *Epidermis: Dead cells, fingernails, toenails*
 - b. *Dermis: Hair, oil glands, sweat glands, blood vessels, nerves*
2. Name one function of each of the following structures.

Oil glands: *Help keep the skin soft and moist*

Sweat glands: *Help regulate the temperature of the body by secreting fluid called sweat*

Blood vessels: *Bring nutrients to the skin and help regulate body temperature*

Nerves: *Carry messages about the environment to the spinal cord and the brain*
3. Name the four main functions of the skin.
 - a. *Protection*
 - b. *Response to sensation*
 - c. *Regulation of body temperature*
 - d. *Excretion*
4. Define subcutaneous.

Subcutaneous means below the skin.
5. How is skin replaced?

Dead skin cells flake off the surface of the skin and are replaced by new cells that are pushed up from below.

Teaching Plan 14

Hormone System

- OBJECTIVES**
1. Describe the functions of the hormone system.
 2. Identify and locate the organs where these hormones are produced and describe the functions of the hormones.

Thyroid hormone

Insulin

Estrogen and progesterone

Testosterone

METHODS Self-instruction, instructor presentation, discussion, demonstration

MATERIALS Student Text- Unit 14, torso model

PREPARATION Prepare a presentation on the hormone system. Prepare to locate on a torso model the glands that produce the hormones discussed in Unit 14. Tell the students to read Unit 14 in the Student Text and to answer the review questions.

TIME: 50 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Make a presentation and lead a discussion on the functions of the hormone system and on the hormones described in Unit 14. | 20 min |
| 2. Locate the thyroid gland, the pancreas, the testes, and the ovaries on a torso model. Point to the thyroid gland, the pancreas, the testes, and the ovaries in turn. Ask individual students to name the organ, the hormone that the organ produces, and the function of the hormone. | 20 min |
| 3. Assign a student to lead a discussion of the review questions for Unit 14. | 10 min |

ANSWERS TO REVIEW QUESTIONS

Hormone System

1. Describe the function of the hormone system.

The body uses the hormone system as one means of communication. One part of the body uses hormones to send messages to another part.

2. Hormones send two kinds of messages. Describe the two types of messages.

a. Stimulate activity or growth

b. Inhibit activity or growth

3. Where is the thyroid gland located?

In the neck

4. Name one function of the thyroid gland.

The thyroid gland regulates the activities of the cells of the body.

5. What happens to the body when the thyroid gland produces too much thyroid hormone?

The activities of the cells speed up. The person's pulse rate increases. His skin becomes warm. He suffers from heat. His hands may shake. He may be very restless. He may lose weight.

6. What happens to the body when the thyroid gland produces too little thyroid hormone?

The activities of the cells slow down. The person feels cold. His skin becomes rough and thick. He often gains weight and moves slowly.

7. Where is insulin produced?

In the pancreas

8. Describe one function of insulin.

Insulin helps cells use sugar.

9. Name two hormones produced by the female reproductive system. Give one function of each hormone.

a. Estrogen: Responsible for development of female sex characteristics and regulation of menstrual cycles

b. Progesterone: Responsible for helping to maintain pregnancy

10. Name one hormone produced by the male reproductive system. Give two functions of the hormone.

Testosterone: Responsible for the development of male sex characteristics and for the production and development of sperm

Teaching Plan 15

Reviewing Anatomy and Physiology and Observing an Autopsy

| | |
|-------------|--|
| OBJECTIVE | Observe an autopsy and review the structures studied in the Anatomy and Physiology module. |
| METHOD | Demonstration |
| MATERIALS | Cadaver, pathologist to perform an autopsy |
| PREPARATION | <p>Arrange for the students to observe an autopsy. If possible, divide the class into two groups. Group I should observe an autopsy in the morning, and Group II in the afternoon. Arrange a review session for the group that is not observing an autopsy.</p> <p>Brief the person performing the autopsy on the students' objective. Give the person a copy of the Anatomy and Physiology module in advance so that he will be familiar with the structures that the students have studied.</p> <p>Prepare a review session on anatomy and physiology.</p> |

TIME: 6 hrs

LEARNING ACTIVITIES

1. The students will observe an autopsy.

Tell them to identify the structures studied in the Anatomy and Physiology module.

3 hrs – morning
or afternoon

TIME

2. The students will review each body system discussed in the Anatomy and Physiology module. For each system, ask individual students to name the structures, locate each structure on a model or wall chart, and describe the function of each structure.

Number the structures on the skeletal model, wall chart, and diagrams. Ask the students to list the numbers on a blank sheet of paper. After each number, the students should name the structure and describe one of its functions.

Choose thirteen students. Tell each student to prepare a presentation on one of the thirteen systems or areas discussed in the module. Each presentation should last no longer than ten minutes and should include:

- a. The structures that make up the body system or area
- b. The location of the structures within the system or area
- c. The functions of the system or area

Students make their presentations. The class comments on the accuracy of each presentation.

3 hrs -
morning
or afternoon

MEDICAL HISTORY

The MEDEX Primary Health Care Series

MEDICAL HISTORY

Instructor's Manual

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Health Manpower Development Staff
John A. Burns School of Medicine
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TABLE OF CONTENTS

| | |
|--|----|
| SCHEDULE | 7 |
| TEACHING PLANS FOR UNIT 1 | |
| Teaching Plan 1 – Overview of the Medical History | 9 |
| Answers to Review Questions | 11 |
| Answers to Review Exercise | 12 |
| Teaching Plan 2 – Interviewing Skills | 14 |
| TEACHING PLANS FOR UNIT 2 | |
| Teaching Plan 3 – Obtaining the Patient Identification Information | 15 |
| Answers to Review Questions | 17 |
| Answers to Review Exercise | 24 |
| Teaching Plan 4 – Obtaining the Presenting Complaint | 26 |
| Teaching Plan 5 – Obtaining the History of the Present Problem | 27 |
| Teaching Plan 6 – Obtaining the Past Medical History | 29 |
| Teaching Plan 7 – Using the Practice Guide for Taking an Adult Medical History | 31 |
| TEACHING PLAN FOR UNIT 3 | |
| Teaching Plan 8 – Recording an Adult Medical History | 32 |
| TEACHING PLAN FOR UNIT 4 | |
| Teaching Plan 9 – Taking and Recording an Adult Medical History | 34 |

TEACHING PLAN FOR UNIT 5

| | |
|--|----|
| Teaching Plan 10 – Taking and Recording an Adult Medical History; Skill Development | 37 |
|--|----|

TEACHING PLAN FOR UNIT 6

| | |
|--|----|
| Teaching Plan 11 – Taking and Recording a Child Medical History | 39 |
| Answers to Review Questions | 40 |

SCHEDULE

MEDICAL HISTORY

| DAY 1 | DAY 2 | DAY 3 | DAY 4 |
|---|--|--|-----------------|
| <p>Introduction to Medical History module</p> <p>Teaching Plan 1: Overview of the Medical History</p> | <p>Teaching Plan 5: Obtaining the History of the Present Problem</p> | <p>Teaching Plan 7: Using the Practice Guide for Taking an Adult Medical History</p> | <p>Posttest</p> |
| <p>Teaching Plan 2: Interviewing Skills</p> <p>Teaching Plan 3: Obtaining the Patient Identification Information</p> <p>Teaching Plan 4: Obtaining the Presenting Complaint</p> | <p>Teaching Plan 6: Obtaining the Past Medical History</p> | <p>Teaching Plan 8: Recording an Adult Medical History</p> | |
| | | <p>Teaching Plan 9: Taking and Recording an Adult Medical History</p> | |

Skill development: one week – Teaching Plan 10

Teaching Plan 1

Overview of the Medical History

| | |
|-------------|--|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe the purpose of the medical history.2. Explain how the medical history and the physical examination are related.3. Describe the recommended steps for taking a medical history of an adult. |
| METHODS | Self-instruction, instructor presentation, observation of demonstration, discussion |
| MATERIALS | Student Text – Unit 1 |
| PREPARATION | <p>Complete your analysis of pretest results. Divide the class into pairs. Each pair should include a student with a high pretest score and a student with a low pretest score.</p> <p>Identify a person who will allow you to interview him in front of the class to take his complete medical history.</p> <p>Prepare a brief presentation on:</p> <ul style="list-style-type: none">The purpose of the medical historyHow the medical history and the physical examination are relatedThe steps for taking an adult medical history <p>Tell the students to review the Identifying the Preventive Health Needs of the Community and the Anatomy and Physiology modules.</p> <p>Tell the students to read Unit 1 in the Student Text and to answer the review questions.</p> |

TIME: 2 hrs

LEARNING ACTIVITIES

| | |
|--|--------|
| 1. Make a presentation on the purposes of the medical history and on how the medical history and the physical examination are related. | 20 min |
| 2. Make a presentation on the steps for taking an adult medical history. | 15 min |
| 3. Discuss with students the presentations. | 20 min |
| 4. Demonstrate how to conduct an interview to take a medical history of an adult. | 30 min |
| 5. Discuss with students the interview. | 20 min |
| 6. Evaluate what the students have learned with an informal posttest. | 15 min |

ANSWERS TO REVIEW QUESTIONS

Overview of the Medical History

1. Why do you take a medical history?

You take a medical history to obtain information that will help you understand a patient's health problem.

2. Should you make a diagnosis by doing a physical examination and not a medical history? Why?

No, you should not make a diagnosis by doing a physical examination and not a medical history. You combine the information from the medical history and the physical examination to make a diagnosis.

3. Write down as many of the steps for taking a medical history as you can.

- a. Greet the patient.*
- b. Make the patient feel at ease.*
- c. Obtain the patient identification information.*
- d. Find out the presenting complaint.*
- e. Take the history of the present problem.*
- f. Take the past medical history.*
- g. Check the accuracy of the information.*

4. List the four categories of interviewing skills.

- a. Establishing a good relationship with a patient*
- b. Using non-verbal techniques to gather information*
- c. Conducting an interview*
- d. Supporting the patient*

ANSWERS TO REVIEW EXERCISE

Overview of the Medical History

1. Your first patient is Mrs. Smith. You both sit down in the examination room with the other waiting patients. You begin the interview. Mrs. Smith is hesitant to talk about her problem. How can you establish a good relationship with Mrs. Smith so that she is more willing to talk?

*Arrange for the examination room to be free so that you can talk in privacy.
Be pleasant and enthusiastic about your role.*

2. Your next patient is Mr. Lowell. At the start of the interview, Mr. Lowell tells you that he has chest pains and difficulty breathing. This is how the interview continues:

HEALTH WORKER: "Now, Mr. Lowell, tell me about your chest pain."

MR. LOWELL: "I have never had anything like this before. It feels like a tight band around my chest. When I get the pain, I cannot breathe."

HEALTH WORKER: "Mr. Lowell, what were you doing when the pain started? Were you walking, sitting, working?"

MR. LOWELL: "Walking."

HEALTH WORKER: "Do you have any swelling of your legs, or difficulty breathing during the night? Oh yes, by the way, how many pillows do you sleep on at night?"

MR. LOWELL: "Hmmm... would you repeat that?"

HEALTH WORKER: "What I mean is, do you have any edema or orthopnea? How many pillows do you use to sleep on at night?"

MR. LOWELL: "Hmmmmmm...."

- a. What was good about this interview?

The health worker started the interview with a question that allowed the patient to tell his own story.

- b. What was not good about this interview?

The health worker used direct questions too early in the interview.

The health worker used medical terms that the patient did not understand.

The health worker asked too many questions at once.

- c. Choose one question that was not a good question. Rewrite the question to make it a better question.

Question: "What were you doing when the pain started? Were you walking sitting, working?"

Change to: "Can you describe what you were doing when the pain started?"

Question: "Do you have any swelling of your legs, or difficulty breathing during the night? Oh yes, by the way, how many pillows do you sleep on at night?"

Change to: "Do you have any swelling of your legs?" Wait for the patient to respond.

"Do you have any difficulty breathing during the night?" Wait for the patient to respond.

"How many pillows do you sleep on at night?"

Question: "What I mean is, do you have any edema or orthopnea? How many pillows do you use to sleep on at night?"

The patient did not understand the question the first time. The health worker asked too many questions at once. The health worker also used medical terms that the patient did not understand. Follow the suggestions above to ask the question correctly.

3. Miss Stephens is the next patient. She has many symptoms. You spend a great deal of time writing down everything that she says.

- a. Why is it a good idea to take notes during an interview?

The patient is providing a lot of information. Taking notes will help you remember the important parts of the patient's medical history.

- b. Why is it not a good idea to spend too much time taking detailed notes?

You may distract the patient if you write for too long or look down at your paper too often.

Teaching Plan 2

Interviewing Skills

| | |
|-------------|---|
| OBJECTIVE | Explain these categories of interviewing skills: Establishing a good relationship with a patient Using non-verbal techniques to gather information Conducting an interview Supporting the patient |
| METHODS | Self-instruction, instructor presentation, discussion |
| MATERIALS | Student Text – Unit 1 |
| PREPARATION | Prepare a brief presentation on interviewing skills. Recall incidents from your past that will help the students learn the different interviewing skills. |

TIME: 1 hr 45 min

LEARNING ACTIVITIES

| | |
|---|--------|
| 1. Make a presentation on interviewing skills. | 20 min |
| 2. Give examples from your past that will help the students learn the different interviewing skills. For each category, tell about situations when you used the skills successfully and situations when you did not. | 30 min |
| 3. Ask the students to give examples from their past experiences when they interviewed people. Ask them to discuss what made an interview good or bad. Ask them to discuss how they could have used the suggested skills to improve their interviews. | 20 min |
| 4. Discuss with the students how to use the suggested interviewing skills when they take medical histories. | 20 min |
| 5. Assign one student to lead a discussion of the review questions for Unit 1. | 15 min |

Teaching Plan 3

Obtaining the Patient Identification Information

| | |
|-------------|---|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe the information that you should obtain for the patient identification information.2. Explain how to conduct an interview to obtain the patient identification information.3. Interview other students to obtain the patient identification information. |
| METHODS | Self-instruction, instructor presentation, demonstration, discussion, work in pairs, role-play |
| MATERIALS | Student Text - Unit 2 |
| PREPARATION | <p>Prepare a brief presentation on what the patient identification information is and how to obtain it.</p> <p>Tell the students to read Unit 2 in the Student Text and to answer the review questions.</p> |

TIME: 50 min

LEARNING ACTIVITIES

| | |
|--|--------|
| 1. Make a presentation and lead a discussion on what the patient identification information is and how to obtain it. | 10 min |
| 2. Demonstrate how to obtain the patient identification information, using a student volunteer as the patient. | 5 min |
| 3. Discuss with students the interview. | 5 min |
| 4. Divide the class into pairs. Ask one student in the pair to be the health worker and the other to be the patient. Tell each health worker to practice | 5 min |

| | TIME |
|---|--------|
| obtaining the patient identification information. Students will use their own patient identification information for the role-play. Tell the students to use the practice guide for taking an adult medical history to remind them of the patient identification information to obtain. | |
| 5. The students switch roles. The student who was the patient now becomes the health worker. Ask the new health worker to practice obtaining the patient identification information. | 5 min |
| 6. The students summarize what they learned during this session. | 10 min |
| 7. Assign one student to lead a discussion of the review questions about the patient identification information. | 10 min |

ANSWERS TO REVIEW QUESTIONS

Taking an Adult Medical History

1. List seven items that make up the patient identification information.
 - a. *Date of visit*
 - b. *Name*
 - c. *Address*
 - d. *Sex*
 - e. *Date of birth*
 - f. *Age*
 - g. *Marital status*
2. When should you obtain the patient identification information?
Obtain the patient identification information on a patient's first visit, before attending to his present problem. Check the patient identification information at each patient visit.
3. What is the difference between a symptom and sign?
A symptom is something that the patient tells you about. A sign is something that you detect or observe.
4. Write what you think each of these mean.
 - a. Presenting complaint:
The reason for the patient's visit
 - b. History of the present problem:
Asking questions that will provide more details about a patient's presenting complaint
 - c. Review of systems:
Asking questions about symptoms according to the systems of the body

5. Write the presenting complaint of a patient who tells you:

“I have had a cough for two months. Just recently, I have been very tired and have not wanted to eat.”

“Cough for two months with fatigue and loss of appetite”

6. You have obtained a patient's presenting complaint. You have found out when and how the symptoms started. You have also found out what makes the symptoms better or worse. List at least four questions that you should ask the patient next.

Ask questions about:

- a. *Duration of symptoms*
- b. *Location of symptoms*
- c. *Frequency of symptoms*
- d. *Description of symptoms*
- e. *Associated symptoms*
- f. *History of similar symptoms*
- g. *Contacts*

7. A patient's presenting complaint is “pain in the throat and difficulty swallowing for three days.” List at least six questions that you should ask about his present problem.

- a. *“Did the pain start suddenly or gradually?”*
- b. *“Does the pain come and go, or is it always present?”*
- c. *“How severe is the throat pain?”*
- d. *“When does the throat pain occur?”*
- e. *“What makes the pain better or worse?”*
- f. *“Do you have any other symptoms, such as a change in your voice, fatigue, or fever?”*
- g. *“Have you ever had throat pain before?”*
- h. *“Have you come in contact with anyone else who has the same symptoms?”*

8. A patient complains of a “cough for two months.” List at least six questions that you should ask about his present problem.

- a. *"Did the cough develop suddenly or gradually?"*
 - b. *"How often are you coughing?"*
 - c. *"How severe is the cough?"*
 - d. *"When does the cough occur?"*
 - e. *"What makes the cough better or worse?"*
 - f. *"Have you noticed any of these other symptoms:*
 - Coughing up sputum*
 - Chest pain*
 - Wheezing*
 - Shortness of breath*
 - Difficulty breathing*
 - Fever*
 - Weight loss*
 - Loss of appetite?"*
 - g. *"Have you ever had a cough like this before?"*
 - h. *"Does anyone else that you know have a cough?"*
9. A patient complains of "pain in the chest for one week." Name three body systems that you should be sure to review.
- a. *Respiratory*
 - b. *Heart*
 - c. *Gastrointestinal*
10. A man complains of "pain in his lower belly for three days." Name the body systems that you should review.
- a. *Gastrointestinal*
 - b. *Genitourinary*
 - c. *Male genital*
11. What symptoms should you ask about when you review the gastrointestinal system?
- a. *Nausea*
 - b. *Vomiting*
 - c. *Blood in vomit*

- d. Diarrhea*
- e. Constipation*
- f. Blood or mucus in stool*
- g. Heartburn*
- h. Abdominal pain*
- i. Pain or itching around the rectum*
- j. Worms*
- k. Fever*
- l. Chills*
- m. Weight loss*

12. List at least five symptoms that you might find out about when you ask a patient about passing urine.

- a. Pain on urination*
- b. Frequent urination*
- c. Increased urination*
- d. Having to urinate frequently at night*
- e. Trouble starting and stopping the flow of urine*
- f. Blood in urine*
- g. Swelling of face and legs*
- h. Colicky pain in loin or flank*
- i. Radiating flank pain*
- j. Fever*
- k. Chills*

13. List four findings in a medical history that would make you suspect that a patient has a problem of the nervous system.

- | | |
|--------------------------------------|---------------------------------|
| <i>a. Headache</i> | <i>e. Loss of consciousness</i> |
| <i>b. Convulsion</i> | <i>f. Loss of speech</i> |
| <i>c. Fainting</i> | <i>g. Loss of memory</i> |
| <i>d. Paralysis of an arm or leg</i> | <i>h. Loss of sensation</i> |

14. Write what you think taking the past medical history means.

Finding out about the patient's health from the time he was born until he developed his current presenting complaint

15. You are taking the past medical history of a male patient. What must you be sure to ask about?

- a Drug allergies*
- b Immunizations*
- c Childhood illnesses*
- d Adult illnesses*
- e Operations*
- f Accidents*
- g Family history*
- h Social history*

16. How is the past medical history of a female patient different from the past medical history of a male patient?

For a female patient you take a menstrual and obstetrical history.

17. List three important reasons to take a family history.

- a Some health problems are common among members of the same family.*
- b Some diseases that affect a patient's spouse and children can also affect the patient. Diseases can be passed from family member to family member.*
- c Other members of a patient's family who have the same disease must also be treated.*

18. A patient tells you that he is allergic to penicillin. What should you do with this information?

- a Do not give penicillin to the patient.*
- b Tell the patient not to take penicillin from anyone else.*
- c Write on the patient's record in large letters that he is allergic to penicillin.*

19. When you ask a patient if he has received any injections to prevent him from getting sick, you are asking if he has received any immunizations

20. List at least six childhood illnesses that you should ask a patient about.
- a. Measles*
 - b. Mumps*
 - c. Whooping cough*
 - d. Polio*
 - e. Rheumatic heart disease*
 - f. Tuberculosis*
 - g. Kwashiorkor*
 - h. Marasmus*
21. List at least six adult illnesses that you should ask a patient about.
- a. High blood pressure*
 - b. Diabetes*
 - c. Heart disease*
 - d. Tuberculosis*
 - e. Filariasis*
 - f. Malaria*
 - g. Cancer*
22. Why should you ask if a patient has had any operations?
- a. This information may help you make a diagnosis.*
 - b. You might be able to see a pattern in his present illness by knowing about past operations.*
23. Why should you ask if a patient has had any accidents?
- The information might help to explain any deformities, scars, or limited movement in parts of the patient's body.*
24. What should you ask a woman patient about her menstrual periods?
- a. "When was your last menstrual period?"*
 - b. "Are your menstrual periods regular or irregular?"*

c. *“How many days does your menstrual period usually last?”*

d. *“Do you usually have pain with your menstrual periods?”*

25. Listed below are statements from a patient's past medical history. Check (x) the statements that are a part of the social history.

_____ The patient had polio as a child.

_____ The patient's mother had tuberculosis two years ago.

 x The patient is living in a two-room house.

_____ All of the patient's brothers and sisters are living.

 x The patient buries all of his garbage.

 x The patient travelled to a neighboring district one month ago.

_____ The patient has had three DPT immunizations.

 x The patient is a shopkeeper.

 x The patient drinks two glasses of homemade beer daily.

_____ The patient is allergic to penicillin.

 x The patient has had six years of school. He reads and writes well.

 x The patient smokes six to seven cigarettes per day.

ANSWERS TO REVIEW EXERCISE

Taking an Adult Medical History

A. PATIENT IDENTIFICATION INFORMATION

3 May 1982

James Litton

Address—1303 West Street, Cairo, Egypt

Male, age 38, married

B. PRESENTING COMPLAINT

Pain in lower back for three days

C. HISTORY OF THE PRESENT PROBLEM

Onset of symptom:

While working in his construction job three days ago, bent to lift heavy boxes. Felt immediate pain

Duration of symptom:

He had constant pain for the past three days

Location of symptom:

Pain is in his lower back and moves down his left leg

Frequency that symptom occurs:

Pain is continuous

Severity of symptom:

Pain is so severe that he is unable to sit or to walk

What makes symptom better:

Lying on his back with his knees bent eases the pain

What makes symptom worse:

Walking or sitting makes the pain worse

Associated symptoms:

Has some tingling and loss of sensation in his left leg

History of similar symptoms:

No previous history of similar symptoms

D. PAST MEDICAL HISTORY

Drug allergies:

Allergic to penicillin

Immunizations:

Had smallpox vaccine as a child. Does not remember any other immunizations

Childhood illnesses:

Had whooping cough and measles. No other diseases

Adult illnesses:

Hospitalized in 1979 for pneumonia in right lung

Operations:

Hospitalized in 1966 for appendectomy

Accidents:

Car accident 1977. Fractured right arm put in cast at the Cairo General

Menstrual and obstetrical history:

Does not apply

Family history:

All four grandparents living and in good health. Parents living and in good health. No brothers or sisters

Wife is healthy, with no problems. Has two sons, both healthy

Social history:

Has high school education. Lives in a two-bedroom house at the outskirts of town. Wife draws the water from a protected well next to the house. The family has a latrine that only they use. Patient has not travelled outside the town in the past two years. Is a construction worker. Smokes ten to fifteen cigarettes per day. Drinks local beer daily

Teaching Plan 4

Obtaining the Presenting Complaint

| | |
|-------------|---|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe the information that you should obtain for the presenting complaint.2. Explain how to conduct an interview to obtain the presenting complaint.3. Interview other students to obtain the presenting complaint. |
| METHODS | Self-instruction, instructor presentation, discussion, work in pairs, role-play |
| MATERIALS | Student Text- Unit 2 |
| PREPARATION | Prepare a brief presentation on what the presenting complaint is and how to obtain it. |

TIME: 50 min

| | |
|--|--------|
| LEARNING ACTIVITIES | |
| 1. Make a presentation and lead a discussion on what the presenting complaint is and how to obtain it. | 10 min |
| 2. Tell each student to write down two health problems. | 10 min |
| 3. Divide the class into pairs. Ask one student in the pair to be the health worker and the other to be the patient. Tell each health worker to practice obtaining the presenting complaints from the patient. | 10 min |
| 4. The students switch roles. The student who was the patient now becomes the health worker. Ask the new health worker to practice obtaining the presenting complaints. | 10 min |
| 5. The students summarize what they learned during the session. | 10 min |

Teaching Plan 5

Obtaining the History of the Present Problem

| | |
|-------------|---|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe the information that you should obtain for the history of the present problem.2. Explain how to conduct an interview to obtain the history of the present problem.3. Interview other students to obtain the history of the present problem. |
| METHODS | Self-instruction, instructor presentation, demonstration, discussion, work in pairs, role-play |
| MATERIALS | Student Text – Unit 2 |
| PREPARATION | Prepare a brief presentation on what the history of the present problem is and how to obtain it. |

TIME: 3 hrs 25 min

LEARNING ACTIVITIES

| | |
|---|--------|
| 1. Make a presentation and lead a discussion on what the history of the present problem is and how to obtain it. | 30 min |
| 2. Have each student recall an illness that he or a member of his family has had in the past. Ask each student to remember the symptoms that were associated with the illness. | 5 min |
| 3. Ask for a student volunteer to act as a patient. Have the student recall an illness. Demonstrate how to obtain the history of the present problem, using the student volunteer as the patient. | 15 min |
| 4. Discuss with students the interview. | 20 min |

| TIME | |
|--|--------|
| 5. Divide the class into pairs. Ask one student in the pair to be the health worker and the other to be the patient. Tell each health worker to practice obtaining the history of the present problem from the patient. Tell the students to use the practice guide for taking an adult medical history to remind them of the information to obtain. | 20 min |
| 6. The students switch roles. The student who was the patient now becomes the health worker. Ask the new health worker to practice obtaining the history of the present problem. | 20 min |
| 7. The students summarize what they learned in the role-play sessions. Discuss any problems that the students may have had obtaining the history of the present problem. Encourage the students to suggest ways to improve their skills in obtaining the history of the present problem. | 20 min |
| 8. Again divide the class into pairs. Choose different pairs. Repeat the role-play exercise so that each student is able to be the health worker and to practice obtaining the history of the present problem. | 40 min |
| 9. The students summarize what they learned during the repeat session. | 15 min |
| 10. Assign one student to lead a discussion of the review questions about the presenting complaint and history of the present problem. | 20 min |

Teaching Plan 6

Obtaining the Past Medical History

| | |
|-------------|---|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe the information that you should obtain for the past medical history.2. Explain how to conduct an interview to obtain the past medical history.3. Interview other students to obtain the past medical history. |
| METHODS | Self-instruction, instructor presentation, demonstration, discussion, work in pairs, role-play |
| MATERIALS | Student Text – Unit 2 |
| PREPARATION | Prepare a brief presentation on what the past medical history is and how to obtain it. |

TIME: 3 hrs

LEARNING ACTIVITIES

| | |
|--|--------|
| 1. Make a presentation and lead a discussion on what the past medical history is and how to obtain it. | 30 min |
| 2. Demonstrate how to obtain the past medical history, using a student volunteer as the patient. | 15 min |
| 3. Discuss with students the interview. | 10 min |
| 4. Divide the class into pairs. Ask one student in the pair to be the health worker and the other to be the patient. Tell each health worker to practice obtaining the past medical history from the patient. Tell the students to use the practice guide for taking an adult medical history to remind them of the information to obtain. | 20 min |

| | TIME |
|--|--------|
| 5. The students summarize what they learned in the role-play sessions. Discuss any problems that the students may have had obtaining the past medical history. Encourage the students to suggest ways to improve their skills in obtaining the past medical history. | 20 min |
| 6. Again divide the class into pairs. Choose different pairs. Repeat the role-play exercise so that each student is able to be the health worker and to practice obtaining the past medical history. | 40 min |
| 7. The students summarize what they learned during the repeat session. | 15 min |
| 8. Assign one student to lead a discussion of the review questions about the past medical history. | 15 min |
| 9. Discuss the review exercise. | 15 min |

Teaching Plan 7

Using the Practice Guide for Taking an Adult Medical History

| | |
|-------------|---|
| OBJECTIVE | Describe how to use the practice guide for taking an adult medical history. |
| METHODS | Self-instruction, instructor presentation, discussion |
| MATERIALS | Practice guide for taking an adult medical history |
| PREPARATION | Prepare a brief presentation on how to use the practice guide for taking an adult medical history. Reproduce copies of the practice guide for taking an adult medical history for the class. |

TIME: 20 min

LEARNING ACTIVITIES

| | |
|---|--------|
| 1. Make a presentation and lead a discussion on how to use the practice guide for taking an adult medical history. Encourage the students to continue to use the practice guide when they interview other students or patients. | 15 min |
| 2. The students summarize what they learned during this session. | 5 min |

Teaching Plan 8

Recording an Adult Medical History

| | |
|-------------|--|
| OBJECTIVE | Record an adult medical history on a practice sheet in the recommended way. |
| METHODS | Self-instruction, demonstration, discussion, practice recording a medical history |
| MATERIALS | Student Text – Unit 3, practice sheet for taking an adult medical history |
| PREPARATION | <p>Reproduce copies of the practice sheet for taking an adult medical history for the class.</p> <p>Prepare a brief presentation on how to use the practice sheet for taking an adult medical history.</p> <p>Identify a person who will allow you to interview him in front of the class to take his complete medical history.</p> <p>Tell the students to read Unit 3 in the Student Text.</p> |

TIME: 2 hrs 10 min

LEARNING ACTIVITIES

| | |
|---|--------|
| 1. Make a presentation and lead a discussion on how to use the practice sheet for taking an adult medical history. | 20 min |
| 2. Tell the students that the instructor will interview a person to take his medical history. The students will listen as the instructor takes the medical history. The students will take notes on the information that the person gives during the interview. After the interview is over, the students will use their notes to record the medical history on the practice sheet. | 10 min |

| | TIME |
|--|--------|
| 3. Interview the person to take his medical history. | 30 min |
| 4. After the interview is over, the students review their notes and record the medical history on the practice sheet. | 30 min |
| 5. Ask one student to read what he has written on the practice sheet. Ask the other students to comment on what was written. | 20 min |
| 6. The students summarize what was learned in this session. | 10 min |
| 7. Ask the students to hand in their practice sheets. Read the sheets and make comments. | 10 min |

Teaching Plan 9

Taking and Recording an Adult Medical History

| | |
|-------------|--|
| OBJECTIVES | <ol style="list-style-type: none">1. Demonstrate how to use these interviewing skills:<ul style="list-style-type: none">Establishing a good relationship with a patientUsing non-verbal techniques to gather informationUsing recommended techniques for conducting an interviewSupporting the patient2. Take an adult medical history in the recommended sequence. Include the:<ul style="list-style-type: none">Patient identification informationPresenting complaintHistory of the present problemPast medical history3. Record an adult medical history on the practice sheet in the recommended way. |
| METHODS | Self-instruction, discussion, practice interview, role-play, student presentation |
| MATERIALS | Student Text– Units 2, 3, and 4, adult medical history skill checklist, practice guide for taking an adult medical history |
| PREPARATION | <p>Reproduce copies of the adult medical history skill checklist for the class.</p> <p>Remind the students to bring their copies of the practice guide for taking an adult medical history to use while interviewing.</p> <p>Prepare to have a review session with the students to cover interviewing skills, steps for taking an adult</p> |

medical history, using the practice guide for taking an adult medical history, and recording an adult medical history.

Prepare to discuss the use of the adult medical history skill checklist.

Tell the students to read Unit 4 in the Student Text and to review Units 2 and 3.

TIME: 3 hrs 50 min

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Review interviewing skills, steps for taking an adult medical history, and steps for recording an adult medical history. | 20 min |
| 2. Review the use of the practice guide for taking an adult medical history. Remind the students that they may refer to the practice guide during their interviews. | 5 min |
| 3. Make a presentation and lead a discussion on how to use the adult medical history skill checklist. | 15 min |
| 4. Divide the class into groups of three. Choose one student in each group to be a health worker, one student to be a patient, and one student to be an observer. | 5 min |
| 5. The patient will choose an illness that he or a member of his family has had in the past. The health worker will interview the patient to take a complete medical history, using the practice guide as necessary. The observer will check the skill of the health worker, using the adult medical history skill checklist. At the end of the interview, the observer will make comments on the interview. All three students will discuss the interview, comment on good practices, and make suggestions for improvement. | 45 min |
| 6. The students summarize how the first interviews went. Discuss good practices and suggestions for improvement. | 15 min |

| | TIME |
|--|--------|
| 7. Have the students switch roles. Repeat the exercise. | 45 min |
| 8. Have the students switch roles again. Repeat the exercise for the third time to give each student a chance to play each role. | 45 min |
| 9. The students summarize what they learned in the role-play sessions. | 15 min |
| 10. Have each student write up the medical history that he obtained, using the practice sheet. Collect the completed practice sheets for corrections and comments. | 20 min |

Teaching Plan 10

Taking and Recording an Adult Medical History; Skill Development

| | |
|-------------|--|
| OBJECTIVES | <ol style="list-style-type: none">1. Interview adult patients to take medical histories, using these interviewing skills:<ul style="list-style-type: none">Establishing a good relationship with a patientUsing non-verbal techniques to gather informationUsing recommended techniques for conducting an interviewSupporting the patient2. Properly record the medical history. |
| METHOD | Supervised clinical practice |
| MATERIALS | Adult medical history skill checklist, practice guide for taking an adult medical history, evaluation records |
| PREPARATION | <p>The skill development practice for taking adult medical histories is coordinated with the skill development practice for doing adult physical examinations. Refer to the student guides in the Medical History and the Physical Examination modules for entry level skills and knowledge. Also refer to Teaching Plan 29 in the Physical Examination module.</p> <p>Arrange to place two to three students on each hospital ward or outpatient department. Arrange for clinical supervision. It is preferable to have at least one supervisor for every three students.</p> |

This will be the first time that students will be on the hospital wards or in the outpatient departments. Prepare to introduce the students to the staff. Arrange to have someone from the staff introduce the students to hospital ward or outpatient policies and practices. Arrange to have someone show the students where the supplies are kept.

TIME: 1 week

LEARNING ACTIVITIES

- 1. Introduce students to hospital ward or outpatient clinic or staff. The chosen staff member will introduce students to policies and practices. The staff member will show students where the supplies are kept.
- 2. Students take medical histories from adult patients. Students record all findings on practice sheets in the recommended way.
- 3. Students turn in all medical history practice sheets to their supervisors for comment.
- 4. All students are evaluated at least twice on taking an adult medical history.

Teaching Plan 11

Taking and Recording a Child Medical History

Taking and recording a child medical history will be taught with the Diseases of Infants and Children module. Refer to Teaching Plans 1 and 2 in the Diseases of Infants and Children module for objectives, methods, materials, preparation, and learning activities.

ANSWERS TO REVIEW QUESTIONS

Taking and Recording a Child Medical History

1. Write down as many steps for taking a child history as you can.
 - a. *Greet the child and his parent. Introduce yourself and explain your role.*
 - b. *Make the patient and his parent feel at ease.*
 - c. *Obtain the patient identification information.*
 - d. *Obtain the presenting complaint.*
 - e. *Obtain the history of the present problem.*
 - f. *Obtain the past medical history, including:*

| | |
|----------------------------|-----------------------|
| <i>Drug allergies</i> | <i>Development</i> |
| <i>Immunizations</i> | <i>Diet</i> |
| <i>Childhood illnesses</i> | <i>Family history</i> |
| <i>Operations</i> | <i>Social history</i> |
| <i>Accidents</i> | |

2. A mother brings in a three-year-old child. The child begins to cry as soon as he enters the examining room. What can you do to make the child and the parent feel at ease?

Do not take the child from his mother's arms. Allow him to stay with his mother. Give the child something to play with during the interview. Use a friendly, kind, and gentle approach. Use a soft voice.

3. How does the medical history of a child differ from the medical history of an adult?
 - a. *Added to the past medical history are questions about development and diet.*
 - b. *Removed are questions concerning adult illness, menstrual and obstetrical history, occupation, and personal habits*

4. Write down the presenting complaint of this child:

"My child has had diarrhea for three days. Today she started vomit-

ing. I stopped giving her food and milk yesterday because I thought she would get better. She is getting worse.”

“Diarrhea for three days, vomiting for one day.”

5. A mother brings in a child who has had diarrhea for three days. List at least six questions you would ask the mother about the child's present illness.
 - a. How many times a day is the child having stools?*
 - b. What do the stools look like?*
 - c. Is there any blood or mucus in the stools?*
 - d. What is the volume of the stools?*
 - e. What makes the diarrhea better or worse?*
 - f. Is there any abdominal pain?*
 - g. Is there any nausea or vomiting?*
 - h. Has the child had diarrhea before?*
 - i. What is the child's appetite like?*
 - j. What kinds of foods is the child eating or drinking? How much?*
 - k. Has the child had a fever?*
 - l. Does anyone else in the household have diarrhea?*
 - m. Where does the family get their water?*
6. A mother brings in a six-year-old child. The child feels hot and tired. His right wrist and left knee are painful and swollen. You saw the child three weeks ago for tonsillitis. You gave him penicillin. His mother gave him only three days of the treatment. What systems should you be sure to review?
 - a. Head*
 - b. Ears*
 - c. Mouth and throat*
 - d. Respiratory*
 - e. Heart*
 - f. Musculoskeletal*

7. You are taking the past medical history of a two-and-one-half-year-old child. List at least six areas you should ask about.
 - a. *Drug allergies*
 - b. *Immunizations*
 - c. *Childhood illnesses*
 - d. *Operations*
 - e. *Accidents*
 - f. *Development*
 - g. *Diet*
 - h. *Family history*
 - i. *Social history*
8. List the three areas of development that you should ask about when you take a medical history of a child.
 - a. *Social*
 - b. *Physical*
 - c. *Language*
9. A mother brings in a twelve-month-old child. List the skills that you would expect him to perform in these areas:

Social skills: *Drinks from a cup*

Physical skills: *Stands alone, walks holding on, grasps small objects with thumb and forefinger, bangs two objects together*

Language skills: *Says mama or dada to the correct person*
10. List five questions to ask when you take the history of a child's diet.
 - a. *Is the child still breast-feeding?*
 - b. *What foods does the child eat?*
 - c. *How much food does the child eat?*
 - d. *How often does the child eat each day?*
 - e. *Why does the child eat the foods that he does?*

11. You are recording a diet history. What three food groups should you make a statement about?
- a Protective foods*
 - b Energy foods*
 - c Body building foods*

PHYSICAL EXAMINATION

The MEDEX Primary Health Care Series

PHYSICAL EXAMINATION

Instructor's Manual

1982

Health Manpower Development Staff
John A. Burns School of Medicine
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TABLE OF CONTENTS

| | |
|--|----|
| SCHEDULE | 8 |
| TEACHING PLAN FOR UNIT 1 | |
| Teaching Plan 1 – Organization of the Body | 11 |
| Answers to Review Questions | 14 |
| TEACHING PLAN FOR UNIT 2 | |
| Teaching Plan 2 – Blood and the Lymph System | 17 |
| Answers to Review Questions | 19 |
| TEACHING PLAN FOR UNIT 3 | |
| Teaching Plan 3 – Skeletal System | 21 |
| Answers to Review Questions | 23 |
| TEACHING PLAN FOR UNIT 4 | |
| Teaching Plan 4 – Muscle System | 28 |
| Answers to Review Questions | 30 |
| TEACHING PLAN FOR UNIT 5 | |
| Teaching Plan 5 – Respiratory System | 32 |
| Answers to Review Questions | 34 |
| TEACHING PLAN FOR UNIT 6 | |
| Teaching Plan 6 – Circulatory System | 36 |
| Answers to Review Questions | 38 |

| | |
|---|----|
| Teaching Plan 11 – Examining the Breasts | 51 |
| Answers to Review Questions | 53 |
| Teaching Plan 12 – Examining the Abdomen | 55 |
| Answers to Review Questions | 57 |
| Teaching Plan 13 – Examining the Male Genitals | 59 |
| Answers to Review Questions | 61 |
| Teaching Plan 14 – Examining the Arms and Legs and the Musculoskeletal System | 63 |
| Answers to Review Questions | 65 |
| Teaching Plan 15 – Examining the Nervous System | 68 |
| Answers to Review Questions | 70 |
| Teaching Plan 16 – Examining the Female Genitals | 72 |
| Answers to Review Questions | 73 |
| Teaching Plan 17 – Review of the Physical Examination | 75 |
| Teaching Plan 18 – Using the Practice Guide for Performing an Adult Physical Examination | 76 |

TEACHING PLAN FOR UNIT 3

| | |
|---|----|
| Teaching Plan 19 – Recording an Adult Physical Examination | 77 |
|---|----|

TEACHING PLAN FOR UNIT 4

| | |
|--|----|
| Teaching Plan 20 – Performing and Recording an Adult Physical Examination | 79 |
|--|----|

TEACHING PLAN FOR UNIT 5

| | |
|---|----|
| Teaching Plan 21 – Performing and Recording an Adult Physical Examination; Skill Development | 82 |
|---|----|

TEACHING PLANS FOR UNIT 6

| | |
|--|----|
| Teaching Plan 22 – Review of the Clinical Practice Experience | 84 |
|--|----|

| | |
|---|----|
| Teaching Plan 23 – Making a Diagnosis | 85 |
| Teaching Plan 24 – Performing and Recording a Brief Medical History and Physical Examination | 86 |

TEACHING PLAN FOR UNIT 7

| | |
|---|----|
| Teaching Plan 25 – Performing and Recording a Child Physical Examination | 88 |
| Answers to Review Questions | 89 |

SCHEDULE

PHYSICAL EXAMINATION

| DAY 1 | DAY 2 | DAY 3 | DAY 4 | DAY 5 |
|--|---|--|---|--|
| Introduction to the Physical Examination module | Teaching Plan 4: Preparing a Patient for a Physical Examination | Teaching Plan 7: Examining the Eyes, the Ears, and the Nose | Teaching Plan 9: Examining the Respiratory System | Teaching Plan 12: Examining the Abdomen |
| Teaching Plan 1: Overview of the Physical Examination | Teaching Plan 5: Taking the Vital Signs and Testing the Urine | Teaching Plan 8: Examining the Mouth and Throat and the Neck | Teaching Plan 10: Examining the Heart | Teaching Plan 13: Examining the Male Genitals |
| Teaching Plan 2: Methods of Examination | Teaching Plan 6: Examining the General Appearance, the Skin, the Lymph Glands, and the Head | | Teaching Plan 11: Examining the Breasts | Teaching Plan 14: Examining the Arms and Legs and the Musculoskeletal System |
| Teaching Plan 3: Equipment for Performing a Physical Examination | | | | |

| DAY 6 | DAY 7 | DAY 8 | DAY 15 |
|--|---|-----------------|--|
| <p>Teaching Plan 15: Examining the Nervous System</p> <p>Teaching Plan 17: Review of the Physical Examination</p> <p>Teaching Plan 18: Using the Practice Guide for Performing an Adult Physical Examination</p> | <p>Teaching Plan 20: Performing and Recording an Adult Physical Examination</p> | <p>Posttest</p> | <p>Teaching Plan 22: Review of the Clinical Practice Experience</p> <p>Teaching Plan 23: Making a Diagnosis</p> <p>Teaching Plan 24: Performing and Recording a Brief Medical History and Physical Examination</p> |
| <p>Teaching Plan 19: Recording an Adult Physical Examination</p> | | | |

Skill development: one week – Teaching Plan 21

Teaching Plan 1

Overview of the Physical Examination

| | |
|-------------|---|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe the purpose of the physical examination.2. Explain how the physical examination and the medical history are related.3. Describe the recommended steps for performing an adult physical examination. |
| METHODS | Self-instruction, instructor presentation, observation of demonstration, discussion |
| MATERIALS | Student Text- Unit 1, patient gown and drape, two chairs, examination table, small desk, adult scale, sphygmomanometer, tape measure, watch with a second hand, thermometer, jar for urine, indicator paper for testing urine, stethoscope, flashlight, nasal speculum, tongue depressor, E chart, cotton, pin, gloves, lubricant, vaginal speculum |
| PREPARATION | <p>Complete your analysis of pretest results. Divide the class into pairs. Each pair should include a student with a high pretest score and a student with a low pretest score.</p> <p>Identify a person who will allow you to examine him in front of the class.</p> <p>Prepare a brief presentation on:</p> <ul style="list-style-type: none">The purpose of the physical examinationHow the physical examination and the medical history are relatedThe steps for performing an adult physical examination |

Tell the students to review the Anatomy and Physiology and the Medical History modules.

Tell the students to read Unit 1 in the Student Text and to answer the review questions.

TIME: 2 hrs

LEARNING ACTIVITIES

| | |
|--|--------|
| 1. Make a presentation on the purpose of the physical examination and on how the physical examination and the medical history are related. | 20 min |
| 2. Make a presentation on the steps for performing a physical examination. | 20 min |
| 3. Discuss with students the presentations. | 15 min |
| 4. Demonstrate how to examine an adult volunteer. | 30 min |
| 5. Discuss with students the physical examination. | 20 min |
| 6. Evaluate what the students have learned with an informal posttest. | 15 min |

ANSWERS TO REVIEW QUESTIONS

Overview of the Physical Examination

1. Why do you perform a physical examination?

You perform a physical examination to find signs of disease.

2. When do you perform a physical examination?

You perform a physical examination after you finish taking the medical history.

3. What gives you clues to where to look for signs of disease?

The medical history

4. TRUE (T) or FALSE (F)

 T Signs can be normal or abnormal.

 F Signs are something that the patient describes to you.

 F Normal signs are not as important as abnormal signs.

 T A change in the body or in its normal functions causes signs of an abnormal condition.

5. Write down as many steps for doing a physical examination as you can remember without looking at the Student Text. Then check your answers with the text.

a. Arrange on a table within easy reach all of the equipment that you will use during the examination.

b. Prepare the patient for the physical examination.

c. Take the vital signs. Test the urine.

d. Inspect the general appearance.

e. *Examine the:*

Skin

Lymph glands

Head

Eyes

Ears

Nose

Mouth and throat

Neck

Respiratory system

Heart

Breasts

Abdomen

Arms and Legs

Male genitals

Musculoskeletal system

Nervous system

Female genitals

f. *Explain the findings to the patient.*

g. *Record the findings.*

6. List the five methods of examination that you should use when you do a physical examination. Briefly describe each.

a. *Inspect: Look carefully for signs*

b. *Palpate: Touch or feel with your hands*

c. *Percuss: Tap certain parts of the body to make a sound*

d. *Auscultate: Listen with a stethoscope*

e. *Smell: Notice odors given off from different areas of the body*

7. Briefly describe how each of these items of equipment is used.

Tape measure: *Measure height*

Watch with a second

hand:

Time the pulse and respirations

Test the hearing

Stethoscope:

Take the blood pressure

Listen to the heart, lungs, and abdomen

Tongue depressor:

Push down the tongue or push aside the cheek to examine the mouth and throat

Cotton:

Test sensation

Nasal speculum:

Look into the nostrils

Lubricant:

Use during the genital examinations

8. List at least three ways to prepare a patient for a physical examination.
 - a. *Make the patient as comfortable as possible.*
 - b. *Explain the purpose of the examination.*
 - c. *Ask the patient to remove his clothing. Provide a drape.*
 - d. *Warm the stethoscope and speculums before using them on the patient.*
 - e. *Give clear instructions to the patient before you perform a procedure.*

ANSWERS TO REVIEW EXERCISE

Overview of the Physical Examination

1. Which room would you choose as the room for taking medical histories and performing physical examinations? Explain your choice.

The smaller room with the door that closes. Even though the room is smaller than the other one, it offers more privacy because you can close the door.

2. What furniture will you put in the room? Explain why you chose the furniture.

Two chairs – one for the health worker and one for the patient

One examination table – so that the patient can lie down when he needs to during the examination

One small desk – to place the smaller pieces of equipment on so that they can be available for use during the examination

3. You go to the dispensary to gather the equipment that you will need. Write down all the items of equipment that you should collect.

Adult scale

Sphygmomanometer

Tape measure

Watch with a second hand

Jar for urine

Thermometer

Indicator paper for testing urine

Stethoscope

Flashlight

Nasal speculum

Tongue depressor

E chart

Cotton wool

Pin

Gloves

Lubricant

Vaginal speculum

4. You have gathered all the items of equipment that you will need. What should you do with the equipment?

Arrange it on the small desk so that it will be available for use during the physical examination

5. The room is prepared and the equipment is ready. The first patient arrives. You take the patient's medical history. How should you prepare the patient for the physical examination?
- Make the patient as comfortable as possible.*
 - Explain the purpose of the examination.*
 - Ask the patient to remove his clothing. Provide a drape.*
 - Warm the stethoscope and the speculums.*
 - Give clear instructions to the patient before you do a procedure.*
6. Describe in what order you will do the physical examination.
- Take the vital signs. Test the urine.*
 - Inspect the general appearance.*
 - Examine the:*

| | |
|---------------------------|-------------------------------|
| <i>Skin</i> | <i>Heart</i> |
| <i>Lymph glands</i> | <i>Breasts</i> |
| <i>Head</i> | <i>Abdomen</i> |
| <i>Eyes</i> | <i>Male genitals</i> |
| <i>Ears</i> | <i>Arms and legs</i> |
| <i>Nose</i> | <i>Musculoskeletal system</i> |
| <i>Mouth and throat</i> | <i>Nervous system</i> |
| <i>Neck</i> | <i>Female genitals</i> |
| <i>Respiratory system</i> | |
 - Explain the findings to the patient.*
 - Record the findings.*

Teaching Plan 2

Methods of Examination

| | |
|-------------|--|
| OBJECTIVE | Describe the five methods used when examining a patient. |
| METHODS | Self-instruction, instructor presentation, discussion, demonstration, practice using methods |
| MATERIALS | Student Text– Unit 1, one stethoscope for each student |
| PREPARATION | Prepare a brief presentation on the five methods of examination. Ask the students to bring mats or blankets to class to be used for lying on the floor. |

TIME: 2 hrs 15 min

LEARNING ACTIVITIES

| | |
|---|--------|
| 1. Make a presentation on and demonstrate the five methods of examination. Discuss with the students the presentation and demonstration. | 25 min |
| 2. Divide the class into pairs. Ask each student to inspect another student's body. Tell the students to write down all of their observations. First one student inspects and then the other. | 10 min |
| 3. Students discuss what they observed while inspecting. | 10 min |
| 4. Ask each student to palpate another student's head, arms, joints, legs, and face. First one student palpates and then the other. | 10 min |
| 5. Students discuss what they felt when they palpated. | 10 min |

TIME

- | | TIME |
|---|--------|
| 6. Demonstrate how to percuss. Have the students practice percussing on their desks. Observe each student's technique. | 10 min |
| 7. Working in the same pairs, ask the students to take turns lying on the floor on a mat. Ask each student to percuss another student's thigh, liver area, puffed out cheek, abdomen, and lungs to become familiar with the different percussion notes heard in different parts of the body. First one student percusses and then the other. The students should listen for these percussion notes: Thigh - flat percussion note Liver - dull percussion note Lung - resonant percussion note Abdomen - varying percussion note Puffed out cheek - tympanic percussion note | 10 min |
| 8. Students discuss what they heard when they percussed in the different areas. | 10 min |
| 9. Ask each student to listen to another student's lungs with a stethoscope. Tell them to listen over the trachea, in the middle of the chest on both sides of the sternum, at both sides, and in several places in the back. Have them compare the sounds that they heard in each area. | 15 min |
| 10. Students discuss what they heard in different areas on auscultation. | 5 min |
| 11. Discuss how to use smell as a method of examination. Describe the parts of the body that the students should smell. | 10 min |
| 12. Students summarize what they learned during this session. | 10 min |

Teaching Plan 3

Equipment for Performing a Physical Examination

| | |
|-------------|--|
| OBJECTIVE | Describe each item of equipment used during a physical examination and how to use it. |
| METHODS | Self-instruction, instructor presentation, demonstration, practice using equipment |
| MATERIALS | Student Text – Unit 1; one stethoscope, flashlight, nasal speculum, vaginal speculum, tongue depressor, tape measure, thermometer, indicator paper for testing urine, piece of cotton, pin, pair of gloves, and lubricant for each student; one sphygmomanometer for every four students; one E chart; one adult scale |
| PREPARATION | <p>Prepare a short presentation on the equipment used during the physical examination. Prepare to demonstrate how to use the equipment.</p> <p>Ask each student to bring a watch with a second hand.</p> |

TIME: 1 hr

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Demonstrate and discuss the equipment used during the physical examination. | 40 min |
| 2. Distribute the items of equipment to the students. | 10 min |
| 3. Students summarize what they learned during this session. | 10 min |

Teaching Plan 4

Preparing a Patient for a Physical Examination

| | |
|-------------|--|
| OBJECTIVE | Describe how to prepare a patient for a physical examination. |
| METHODS | Self-instruction, instructor presentation, work in pairs |
| MATERIALS | Student Text - Unit 1 |
| PREPARATION | Prepare a brief presentation on how to prepare a patient for a physical examination. |

TIME: 1 hr

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Make a presentation and lead a discussion on how to prepare a patient for a physical examination. | 10 min |
| 2. Divide the class into pairs. Ask one student to be the patient and the other to be the health worker. Ask the health worker to role-play preparing the patient for a physical examination. At the end of the role-play, ask the patient to comment on the health worker's explanations. | 10 min |
| 3. Ask the students to switch roles. Ask the new health worker to role-play preparing the patient for the physical examination. At the end of the role-play, ask the patient to comment on the health worker's explanations. | 10 min |
| 4. Students summarize what they learned during this session. | 5 min |
| 5. Assign one student to lead a discussion of the review questions and exercise for Unit 1. | 25 min |

Teaching Plan 5

Taking the Vital Signs and Testing the Urine

OBJECTIVES

1. Describe how to prepare and use the equipment for taking the vital signs and testing the urine.
2. Describe how to prepare a patient for taking the vital signs and testing the urine.
3. Describe how to take the vital signs and test the urine.
4. Describe the normal and abnormal signs that can be detected when taking the vital signs and testing the urine.
5. Take the vital signs of other students.
6. Perform a urine test.

METHODS

Self-instruction, instructor presentation, demonstration, work in pairs, practice testing urine

MATERIALS

Student Text- Unit 2; one stethoscope, thermometer, tape measure, and paper cup for each student; one sphygmomanometer for every four students; one adult scale; indicator paper for testing urine

PREPARATION

Prepare short presentations on taking the vital signs and testing the urine.

Tell the students to read the sections on taking the vital signs and on testing the urine in Unit 2 of the Student Text. Ask the students to answer the review questions about taking the vital signs and testing the urine.

Tell the students to bring a watch with a second hand.

TIME: 1 hr 40 min

LEARNING ACTIVITIES

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|--|--------|
| 1. Demonstrate and discuss how to take a patient's vital signs. | 30 min |
| 2. Divide the class into pairs. Ask each student to practice taking another student's vital signs. First one student takes the vital signs and then the other. | 10 min |
| 3. Students summarize what they learned during this activity. | 10 min |
| 4. Assign one student to lead a discussion of the review questions about taking the vital signs. | 15 min |
| 5. Demonstrate and discuss how to perform a urine test. | 10 min |
| 6. Give each student a paper cup. Ask each student to obtain his own urine specimen and to test his own urine. | 10 min |
| 7. Students summarize what they learned during this session. One student leads a discussion of the review questions about testing the urine. | 15 min |

ANSWERS TO REVIEW QUESTIONS

Taking the Vital Signs

1. Describe how to take a patient's pulse.

Place the pads of your fingers on the patient's wrist over the radial artery. Count the number of pulse beats during fifteen seconds. Use a watch with a second hand. Multiply the number of beats by four.

2. What else should you notice when you take a patient's pulse?

Notice if the pulse rate is regular. Be alert for any missed beats.

3. Check (x) the findings in the following list that you think are normal.

_____ An adult with a pulse rate of 44 beats per minute

 x An adult with a pulse rate of 88 beats per minute

 x An adult with 22 respirations per minute right after he ran into the health center

_____ An adult with 28 respirations per minute after he had been sitting for a long while

_____ An adult with a blood pressure of 150/96

 x An adult with a blood pressure of 120/70

4. What can cause a patient's respiration rate to increase normally?

Exercise

5. Complete these sentences:

a. When measuring the blood pressure, the figure at which you hear the first beat of the pulse is the systolic blood pressure. The figure at which you can no longer hear the pulse is the diastolic blood pressure.

b. When an adult is resting, his blood pressure should be between 90/60 and 140/90 .

- c. High blood pressure is called hypertension.
- d. Low blood pressure is called hypotension.

6. Write the normal temperatures for each area:

Mouth 37° C

Rectum 37.5° C

Armpit 36° C

ANSWER TO REVIEW QUESTION

Testing the Urine

1. Describe the procedure for testing urine for sugar and protein.
 - a. *Read the directions for using the indicator paper.*
 - b. *Collect the urine in a clean jar.*
 - c. *Note the color and the amount of urine.*
 - d. *Dip a piece of indicator paper into the urine. Note the change of color in the paper.*
 - e. *Use + signs to record how much protein and sugar are present in the urine.*

Teaching Plan 6

Examining the General Appearance, the Skin, the Lymph Glands, and the Head

- OBJECTIVES**
1. Describe how to prepare a patient for examining the skin, the lymph glands, and the head.
 2. Describe how to examine the general appearance, the skin, the lymph glands, and the head.
 3. Describe the normal and abnormal signs that can be detected when examining the general appearance, the skin, the lymph glands, and the head.
 4. Examine the general appearance, the skin, the lymph glands, and the heads of other students.

METHODS Self-instruction, instructor presentation, demonstration, work in pairs

MATERIALS Student Text - Unit 2

PREPARATION Prepare short presentations on examining the general appearance, the skin, the lymph glands, and the head.

Tell the students to read the sections on examining the general appearance, the skin, the lymph glands, and the head in Unit 2 of the Student Text. Ask the students to answer the review questions about examining the general appearance, the skin, the lymph glands, and the head.

TIME: 3 hrs 25 min

LEARNING ACTIVITIES

1. Demonstrate and discuss how to examine a patient's general appearance.

15 min

| | TIME |
|---|--------|
| 2. Divide the class into pairs. Ask each student to practice examining another student's general appearance. First one student examines and then the other. | 20 min |
| 3. Students summarize what they learned during this activity. | 10 min |
| 4. Assign one student to lead a discussion of the review questions about examining the general appearance. | 10 min |
| 5. Demonstrate and discuss how to examine a patient's skin. | 15 min |
| 6. Students work in pairs to practice examining the skin. Students summarize what they learned during this activity. One student leads a discussion of the review questions about examining the skin. | 35 min |
| 7. Demonstrate and discuss how to examine a patient's lymph glands. | 10 min |
| 8. Students work in pairs to practice examining the lymph glands. Students summarize what they learned during this activity. One student leads a discussion of the review questions about examining the lymph glands. | 35 min |
| 9. Demonstrate and discuss how to examine a patient's head. | 10 min |
| 10. Students work in pairs to practice examining the head. Students summarize what they learned during this activity. One student leads a discussion about examining the head. | 45 min |

ANSWERS TO REVIEW QUESTIONS

Examining the General Appearance

1. Check (x) the findings in the following list that you think are abnormal.

- ☐ A patient who looks alert and awake
- ☒ A patient who is sluggish and droops in his chair
- ☒ A man who leans to one side when he walks
- ☒ A woman with a hoarse voice
- ☒ A man with slurred speech
- ☒ A man who looks very thin
- ☐ A woman who answers your questions correctly
- ☐ A man who can walk without assistance

2. List the aspects of a patient's general appearance that you can observe during a physical examination.

- a. State of health*
- b. State of nutrition*
- c. Behavior*
- d. Mental state*
- e. Speech*
- f. Ability to walk*

ANSWERS TO REVIEW QUESTIONS

Examining the Skin

1. What should you look for when you inspect a patient's skin?

- a. Color*
- b. Lesions*
- c. Edema*
- d. Moisture*
- e. Hair pattern*
- f. Evidence of injury*

2. Describe where you might find these abnormal signs.

- Jaundice: eyes, mucous membranes, skin surface*
- Cyanosis: lips, mucous membranes, nail beds, skin surface*
- Pallor: face, conjunctivae, mouth, nail beds*
- Dehydration: abdomen or arms*
- Sweating: any part of the skin*
- Thickening: any part of the skin*
- Tenderness: any part of the skin*
- Edema: eyes, arms, legs*

3. What should you note when you palpate a patient's skin?

- a. Moisture*
- b. Temperature*
- c. Texture*
- d. Tenderness*

ANSWERS TO REVIEW QUESTIONS

Examining the Lymph Glands

1. List seven areas that you can palpate for lymph glands.

- a. In front of the ears*
- b. Behind the ears*
- c. Front neck*
- d. Back neck*
- e. Under the lower jaw*
- f. Above the clavicles*
- g. Under the arms*
- h. At the groin*

2. What two signs are you looking for when you inspect the lymph glands?

- a. Enlargement*
- b. Redness*

3. How should you describe an enlarged lymph gland?

Compare the size of a lymph gland to something familiar, such as an almond, a lentil, or a pumpkin seed.

ANSWERS TO REVIEW QUESTIONS

Examining the Head

1. Name at least one abnormal sign that you might find in each of these areas.

Hair: *Loss of hair, broken hair, bald spots*

Face: *Distressed expression, dull expression, one side differs in appearance from the other, one side moves differently from the other, edema, swelling, puffiness*

Skull and scalp: *Swellings, depressions, breaks in the skin, tender areas*

Sinuses: *Tenderness*

2. Name the method that you should use to examine these parts of the head.

Face: *Inspect*

Skull: *Palpate*

Sinuses: *Percuss*

Teaching Plan 7

Examining the Eyes, the Ears, and the Nose

OBJECTIVES

1. Describe how to prepare and use the equipment for examining the eyes, the ears, and the nose.
2. Describe how to prepare a patient for examining the eyes, the ears, and the nose.
3. Describe how to examine the eyes, the ears, and the nose.
4. Describe the normal and abnormal signs that can be detected when examining the eyes, the ears, and the nose.
5. Examine the eyes, the ears, and the noses of other students.

METHODS

Self-instruction, instructor presentation, demonstration, work in pairs

MATERIALS

Student Text– Unit 2, one flashlight and one nasal speculum for each student, one E chart for every four students

PREPARATION

Prepare short presentations on examining the eyes, the ears, and the nose.

Tell the students to read the sections on examining the eyes, the ears, and the nose in Unit 2 of the Student Text. Ask the students to answer the review questions about examining the eyes, the ears, and the nose.

TIME: 3 hrs 15 min

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Demonstrate and discuss how to examine a patient's eyes. | 30 min |
| 2. Divide the class into pairs. Ask each student to practice examining another student's eyes. First one student examines and then the other. | 30 min |
| 3. Students summarize what they learned during this session. | 10 min |
| 4. Assign one student to lead a discussion of the review questions about examining the eyes. | 15 min |
| 5. Demonstrate and discuss how to examine a patient's ears. | 15 min |
| 6. Students work in pairs to practice examining the ears. Students summarize what they learned during this activity. One student leads a discussion of the review questions about examining the ears. | 40 min |
| 7. Demonstrate and discuss how to examine a patient's nose. | 15 min |
| 8. Students work in pairs to practice examining the nose. Students summarize what they learned during this activity. One student leads a discussion of the review questions about examining the nose. | 40 min |

ANSWERS TO REVIEW QUESTIONS

Examining the Eyes

1. Check (x) the findings in the following list that you think are abnormal

____ Vision of 6/9
x Vision of 6/30
x Bulging of the right eye
x A man who cannot follow a pencil with his eyes
____ Clear, moist conjunctivae
x Yellow sclera
x Right pupil larger than the left
____ Both pupils reacting the same to light
x Redness around the right pupil

2. Describe how you would examine these parts of the eyes.

Conjunctivae: *Compare the conjunctivae. Pull down the lower lids. Lift the upper lids.*

Pupils: *Compare the size and shape of the pupils. Check for redness around the pupils. Shine a flashlight into the eyes and then quickly take it away. Watch how the pupils react.*

Eye movements: *Hold a pencil or your finger at a comfortable distance from the patient. Ask the patient to keep his head straight and to follow the pencil with his eyes. Move the pencil towards the patient's right ear, towards his left ear, towards the ceiling, and then towards the floor.*

3. Describe at least two abnormal signs that you might find in each of these areas.

Eyelids: *swelling, redness, puffiness, drooping, excessive tearing, discharge*

Conjunctivae: *roughness, redness, discharge, dryness, gray spots, pallor, foreign body*

Pupils: *irregular shape, pupils differ in size, redness, pupils remain small and narrow after a light is removed, one pupil remains larger than the other when a light is shined*

4. Explain what the figures 6/6 mean.

The first number corresponds to the distance that the patient stood from the E chart. The second number corresponds to the last row that the patient saw.

ANSWERS TO REVIEW QUESTIONS

Examining the Ears

1. Describe at least one method for testing a patient's hearing.

a. *Whisper test*

Examine the patient in a quiet room. Stand one to two feet behind the patient. Tell the patient to cover his right ear so that you can test his left. Whisper a series of numbers. Ask the patient to repeat the numbers. If the patient cannot hear, gradually raise your voice. Test the right ear in the same way.

b. *Watch test*

Examine the patient in a quiet room. Find a watch that ticks loudly. Test your own hearing. Put the watch next to the patient's right ear. Move the watch away from his right ear. Gradually move it closer. Ask the patient to tell you when he can hear the ticking of the watch. Test the hearing in the left ear in the same way.

2. Name the three areas that you should inspect when you examine the ears.

a. *Outside of the ears*

b. *Outside the ear canals*

c. *Mastoid areas*

3. Describe two abnormal signs that you might find when you examine each of these areas.

Outside of the ears: *lump, lesion*

Outside of the ear canals: *redness, discharge*

Mastoid areas: *redness, swelling*

ANSWERS TO REVIEW QUESTIONS

Examining the Nose

1. What parts of the nose should you inspect?

- a. Outside of the nose*
- b. Nostrils*

2. Describe how to examine the nose.

- a. Check the outside of the nose for flaring nostrils.*
- b. Look inside the nose with a nasal speculum:*

Grasp the nasal speculum in your left hand. Turn the speculum so that the blades open toward the floor and the ceiling. Tip the patient's head back with your right hand. Insert the nasal speculum into the nose about 1 cm. Gently open the speculum toward the floor and the ceiling. Shine the flashlight into the right nostril and inspect. Inspect the left nostril in the same way.

3. List at least four abnormal signs that you might find when you examine the nose.

- a. Flaring nostrils*
- b. Redness*
- c. Lesion*
- d. Discharge from the mucous membranes*
- e. Foreign body*

Teaching Plan 8

Examining the Mouth and Throat and the Neck

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|------------|--|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe how to prepare and use the equipment for examining the mouth and throat.2. Describe how to prepare a patient for examining the mouth and throat and the neck.3. Describe how to examine the mouth and throat and the neck.4. Describe the normal and abnormal signs that can be detected when examining the mouth and throat and the neck.5. Examine the mouths and throats and the necks of other students. |
|------------|--|

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|---------|---|
| METHODS | Self-instruction, instructor presentation, demonstration, work in pairs |
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| MATERIALS | Student Text – Unit 2; one flashlight, tongue depressor, and pair of gloves for each student |
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|-------------|---|
| PREPARATION | <p>Prepare short presentations on examining the mouth and throat and the neck.</p> <p>Tell the students to read the sections on examining the mouth and throat and the neck in Unit 2 of the Student Text. Ask the students to answer the review questions about examining the mouth and throat and the neck.</p> |
|-------------|---|

TIME: 2 hrs 10 min

LEARNING ACTIVITIES

1. Demonstrate and discuss how to examine a patient's mouth and throat.

20 min

| | TIME |
|---|--------|
| 2. Ask each student to practice examining another student's mouth and throat. First one student examines and then the other. | 20 min |
| 3. Students summarize what they learned during this activity. | 10 min |
| 4. Assign one student to lead a class discussion of the review questions about examining the mouth and throat. | 15 min |
| 5. Demonstrate and discuss how to examine a patient's neck. | 20 min |
| 6. Students work in pairs to practice examining the neck. Students summarize what they learned during this activity. One student leads a discussion of the review questions about examining the neck. | 45 min |

ANSWERS TO REVIEW QUESTIONS

Examining the Mouth and Throat

1. List the methods that you should use when you examine the mouth and throat.

- a. *Inspect*
- b. *Palpate*
- c. *Smell the breath*

2. Describe how to examine these parts of the mouth and throat.

Mucous membranes: *Tell the patient to open his mouth. Use the tongue depressor to push the sides of his cheeks away from his teeth. Shine a light into his mouth. Inspect the mucous membranes.*

Gums: *Inspect the gums. Touch the gums on both sides of the teeth with your right forefinger.*

Throat: *Press the patient's tongue down in the back with the tongue depressor. Inspect the throat.*

3. List at least two abnormal signs that you might find when you examine each of these areas.

Lips: *bluish color around the lips, lesion*

Gums: *redness, swelling, bleeding, lesion*

Teeth: *cavities, brown teeth, missing teeth, loose teeth, tooth pain*

Cheeks: *tenderness, swelling*

Throat: *red or swollen tonsils or throat, discharge on the tonsils or throat, difficulty swallowing, throat spasms*

ANSWERS TO REVIEW QUESTIONS

Examining the Neck

1. Check (x) the findings in the following list that you think are abnormal

- ☒ A man whose head tilts to the right
- ☒ A woman who has a swelling over the thyroid area
- ☐ A man who can move his head in any direction
- ☒ A woman who has a large lump on the spine of her neck
- ☒ A man who has tight neck muscles
- ☐ A woman whose thyroid gland you cannot feel

2. What should you check for when you inspect a patient's neck?

- a. *Position of the head and neck*
- b. *Deformities of the neck*
- c. *Ability to move the neck*
- d. *Thyroid gland*

3. Describe how to palpate the neck.

- a. *Palpate the spine and muscles. Feel the back of the neck along the spine and the base of the head.*
- b. *Palpate the thyroid gland:*

Stand behind the patient. Place your thumbs at the back of his neck. Circle his neck with your hands. Place your forefingers and index fingers on either side of the trachea. Rest the fingers just above the suprasternal notch. Push on the trachea with the fingers of your left hand. Feel the thyroid gland with the fingers of your right hand. Ask the patient to swallow. Change the position of your fingers. Palpate the other side the same way.

Teaching Plan 9

Examining the Respiratory System

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|------------|--|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe how to prepare and use the equipment for examining the respiratory system.2. Describe how to prepare a patient for examining the respiratory system.3. Describe how to examine the respiratory system.4. Describe the normal and abnormal signs that can be detected when examining the respiratory system.5. Examine the respiratory systems of other students. |
|------------|--|

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|---------|--|
| METHODS | Self-instruction, instructor presentation, demonstration, work in pairs, drawing |
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| MATERIALS | Student Text – Unit 2, one stethoscope and one washable marking pen for each student |
|-----------|--|

| | |
|-------------|--|
| PREPARATION | <p>Prepare a short presentation on examining the respiratory system.</p> <p>Tell the students to read the section on examining the respiratory system in Unit 2 of the Student Text. Ask the students to answer the review questions about examining the respiratory system.</p> |
|-------------|--|

TIME: 2 hrs 20 min

LEARNING ACTIVITIES

1. Demonstrate and discuss how to examine a patient's respiratory system.

30 min

| | TIME |
|---|--------|
| <p>2. Divide the class into pairs. Ask each student to draw the following on the front chest skin surface of another student:</p> <ul style="list-style-type: none"> a. Both lungs b. Main part of the bronchus c. Left bronchus d. Right bronchus e. Heart <p>Ask each student to draw both lungs on the back chest skin surface. First one student draws and then the other. Check the accuracy of the drawings.</p> | 30 min |
| <p>3. Working in the same pairs, each student practices examining another student's respiratory system. First one student examines and then the other. Tell the students to use the drawings as a guide.</p> | 45 min |
| <p>4. Students summarize what they learned during this session.</p> | 15 min |
| <p>5. Assign one student to lead a discussion of the review questions about examining the respiratory system.</p> | 20 min |

ANSWERS TO REVIEW QUESTIONS

Examining the Respiratory System

1. List the methods that you should use when you examine a patient's respiratory system.
 - a. *Inspect*
 - b. *Palpate*
 - c. *Percuss*
 - d. *Auscultate*
2. List at least eight things that you should check for when you inspect the respiratory system.
 - a. *Rate and rhythm of breathing*
 - b. *Ease of breathing*
 - c. *Cyanosis*
 - d. *Shape of the chest*
 - e. *Chest expansion*
 - f. *Intercostal spaces*
 - g. *Nostrils*
 - h. *Wounds*
 - i. *Cough*
 - j. *Sputum*
3. Describe how to palpate a patient's chest.

Stand in back of the patient. With both hands, feel the back of his chest. Start at the shoulders and work down. Move to the front of the patient. Feel the front of his chest in the same way.
4. Describe what you should observe when you check these parts of the respiratory system.

- a. Rate and rhythm of breathing: *Observe how fast and how deeply the patient breathes. Note the relationship of inspiration to expiration.*
 - b. Shape of the chest: *Note the distance from the front of the chest to the back, compared to the distance from side to side.*
 - c. Chest expansion: *Notice if the patient's chest moves in and out as he breathes.*
 - d. Intercostal spaces: *Look at the spaces between the ribs and just above the breast bone. Notice if the spaces retract when the patient breathes.*
5. List at least four abnormal findings that you might detect when you palpate the chest.
- a. *Lumps*
 - b. *Depressions*
 - c. *Grating sensation*
 - d. *Tenderness*
 - e. *Uneven chest expansion*
6. Describe why you percuss the chest.
- You percuss the chest to find if the lungs are filled with air, fluid, or pus.*
7. Name two organs that might cause a dull sound when you percuss the chest.
- a. *Heart*
 - b. *Liver*
8. What are you listening to when you auscultate the lungs?
- The sound of air passing through different parts of the lungs*
9. Why do you listen to the breath sounds?
- a. *To notice if breath sounds are present, absent, or decreased*
 - b. *To compare inspiration and expiration*
 - c. *To check for abnormal breath sounds*

10. List six abnormal findings that you might detect when you auscultate the lungs.
- a. Prolonged expiration*
 - b. Absent breath sounds*
 - c. Decreased breath sounds*
 - d. Rales*
 - e. Rhonchi*
 - f. Wheezing*

Teaching Plan 10

Examining the Heart

| | |
|-------------|---|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe how to prepare and use the equipment for examining the heart.2. Describe how to prepare a patient for examining the heart.3. Describe how to examine the heart.4. Describe the normal and abnormal signs that can be detected when examining the heart.5. Examine the hearts of other students. |
| METHODS | Self-instruction, instructor presentation, demonstration, work in pairs, drawing |
| MATERIALS | Student Text- Unit 2, one stethoscope and one washable marking pen for each student |
| PREPARATION | <p>Prepare a short presentation on examining the heart.</p> <p>Tell the students to read the section on examining the heart in Unit 2 of the Student Text. Ask the students to answer the review questions about examining the heart.</p> |

TIME: 2 hrs

LEARNING ACTIVITIES

1. Demonstrate and discuss how to examine a patient's heart.
2. Ask each student to draw the following on the front chest skin surface of another student:
 - a. Mitral, tricuspid, pulmonic, and aortic areas
 - b. Heart

20 min

30 min

| | TIME |
|--|--------|
| First one student draws and then the other. Check the accuracy of the drawings. | |
| 3. Working in the same pairs, each student practices examining another student's heart. First one student examines and then the other. Tell the students to use the drawings as a guide. | 30 min |
| 4. Students summarize what they learned during this session. | 20 min |
| 5. Assign one student to lead a discussion of the review questions about examining the heart. | 20 min |

ANSWERS TO REVIEW QUESTIONS

Examining the Heart

1. List the methods that you should use when you examine the heart.

a. Inspect

b. Auscultate

2. Describe how to check for neck vein distention.

Inspect the neck while the patient is sitting to see if his neck veins are enlarged. Ask the patient to lean back to a 45° angle. Check for distended neck veins.

3. What are you listening for when you auscultate the heart?

a. Two heart sounds

b. Heart murmurs

4. What causes the heart sounds?

The closing of the valves of the heart

5. Name the valves of the heart.

a. Mitral

b. Tricuspid

c. Pulmonic

d. Aortic

6. List six abnormal signs that you might find when you examine the heart.

a. Enlarged, distended neck veins

b. Decreased heart sounds

- c. Heart sounds cannot be heard*
- d. Unclear first or second heart sounds*
- e. Irregular or missed beats*
- f. Murmur*

Teaching Plan 11

Examining the Breasts

| | |
|-------------|---|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe how to prepare a female patient for examining the breasts.2. Describe how to examine the breasts.3. Describe the normal and abnormal signs that can be detected when examining the breasts.4. Examine the breasts of other students or patients. |
| METHODS | Self-instruction, instructor presentation, demonstration, work in pairs |
| MATERIALS | Student Text – Unit 2 |
| PREPARATION | <p>Prepare a short presentation on examining the breasts.</p> <p>Identify a female volunteer who will allow you to examine her breasts in front of the class.</p> <p>Arrange for the male students to practice examining the breasts of female patients in the hospital ward. Assign one patient to each student.</p> <p>Tell the students to read the section on examining the breasts in Unit 2 of the Student Text. Ask the students to answer the review questions about examining the breasts.</p> |

TIME: 1 hr 40 min

LEARNING ACTIVITIES

| | |
|---|--------|
| 1. Demonstrate and discuss how to examine a female patient's breasts | 15 min |
| 2. Have the female students in the class form pairs. Ask each student to practice examining another | 30 min |

TIME

student's breasts. First one student examines and then the other.

3. Ask the male students to go to the hospital wards to practice examining the breasts of female patients. 30 min

4. Students summarize what they learned during this session. 15 min

5. Assign one student to lead a discussion of the review questions about examining the breasts. 10 min

ANSWERS TO REVIEW QUESTIONS

Examining the Breasts

1. List the methods that you should use when you examine a woman's breasts.

- a. Inspect*
- b. Palpate*

2. List six things that you should note when you inspect a woman's breasts.

- a. Size*
- b. Shape*
- c. Color*
- d. Dimpling*
- e. Discharge*
- f. Cracks*

3. Describe how to palpate a woman's breasts.

Ask the woman to lie on her back and to raise her arms above her head. Palpate the right breast. Think of the breast as a clock. Place your hand flat on the breast at the twelve o'clock position. Keep your fingers together and palpate the breast tissue. Move your hand in a circular motion slowly around the breast until you return to the place where you started. Palpate over the nipple. Feel the left breast and nipple in the same way. Ask the woman to put her arms by her sides. Palpate under her arms.

4. List at least six abnormal findings that you might detect when you examine the breasts.

- a. One breast or nipple much larger than the other*
- b. Irregular shape of a breast or nipple*
- c. Difference in color from one breast to the other*

- d. Dimpling*
- e. Discharge*
- f. Cracks*
- g. Swelling*
- h. Lump*
- i. Tenderness*
- j. Swollen lymph glands*

Teaching Plan 12

Examining the Abdomen

| | |
|-------------|---|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe how to prepare and use the equipment for examining the abdomen.2. Describe how to prepare a patient for examining the abdomen.3. Describe how to examine the abdomen.4. Describe the normal and abnormal signs that can be detected when examining the abdomen.5. Examine the abdomens of other students. |
| METHODS | Self-instruction, instructor presentation, demonstration, work in pairs, drawing |
| MATERIALS | Student Text – Unit 2, one stethoscope and one washable marking pen for each student |
| PREPARATION | <p>Prepare a short presentation on examining the abdomen.</p> <p>Tell the students to read the section on examining the abdomen in Unit 2 of the Student Text. Ask the students to answer the review questions about examining the abdomen.</p> |

TIME: 2 hrs 20 min

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Demonstrate and discuss how to examine a patient's abdomen. | 30 min |
| 2. Divide the class into pairs. Ask each student to draw the following on the skin surface of the abdomen of another student: | 30 min |

| | |
|--|--------|
| <div>a. Liver</div> <div>b. Spleen</div> <div>c. Bladder</div> <div>d. Kidneys</div> <div>First one student draws and then the other.</div> <div>Check the accuracy of the drawings.</div> | |
| 3. Working in the same pairs, each student practices examining another student's abdomen. First one student examines and then the other. Tell the students to use the drawings as a guide. | 40 min |
| 4. Students summarize what they learned during this session. | 20 min |
| 5. Assign one student to lead a discussion of the review questions about examining the abdomen. | 20 min |

ANSWERS TO REVIEW QUESTIONS

Examining the Abdomen

1. Why do you auscultate the abdomen before you palpate or percuss?

The abdominal sounds sometimes diminish after palpation.

2. List three things that you should check for when you inspect the abdomen.

a. Shape

b. Scars

c. Blood vessels

3. A patient complains of pain in the right upper quadrant. Where should you start to palpate his abdomen?

Palpate an area opposite the pain. Palpate the painful area last.

4. What abnormal signs should you listen for when you auscultate the abdomen?

a. Absence of abdominal sounds

b. Reduced abdominal sounds

c. Loud, rushing noises followed by tinkling sounds

5. The patient tightens his abdominal muscles as you are palpating. What should you do?

Ask the patient to relax. Tell the patient to take deep breaths through his mouth.

6. Describe where the following organs are located in the abdomen.

Liver: right upper quadrant

Spleen: left upper quadrant

Bladder: middle of the lower abdomen, even with the pubic bone

7. Check (x) the findings in the following list that you think are abnormal

- ☒ The liver is palpable to four of the patient's finger breadths below the edge of the ribs
- ☐ You cannot feel the spleen
- ☐ You cannot feel the liver
- ☒ Rebound tenderness in the right lower quadrant of the abdomen
- ☐ You can see a large blood vessel pulsating in the abdomen
- ☒ A scar in the right lower quadrant of the abdomen
- ☐ Active abdominal sounds
- ☒ Very rapid and noisy abdominal sounds
- ☒ Shifting dullness

8. Describe how to examine for these findings.

Liver size:

Stand at the patient's right side. Ask him to take deep breaths. Gently palpate upward as the patient breathes in. Palpate with your hand flat, keeping your fingers together. Point your fingers toward the rib margin. Begin at the middle of the lower right quadrant of the abdomen. With each breath, move your fingers several centimeters higher until you touch the rib cage. Feel for the liver.

Shifting dullness: *Percuss all areas of the abdomen. Note where a drum-like sound ends and a dull sound begins. Ask the patient to lie on his side. Percuss all areas of the abdomen again. Notice whether the dullness shifted when the patient moved.*

Kidney tenderness: *With the patient sitting, percuss both loins for tenderness.*

Bladder size: *Palpate along the middle part of the abdomen. Move your hand toward the pubic bone.*

Irritation in the anus: *Ask the patient to stand and lean over a table or chair or to lie on the table on his side. Spread the cheeks of the buttocks, and inspect the anus.*

Teaching Plan 13

Examining the Male Genitals

| | |
|-------------|--|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe how to prepare a patient for examining the male genitals.2. Describe how to examine the male genitals.3. Describe the normal and abnormal signs that can be detected when examining the male genitals.4. Examine the genitals of a male student. |
| METHODS | Self-instruction, presentation, demonstration, practice examining the male genitals |
| MATERIALS | Student Text- Unit 2, one pair of gloves for each student |
| PREPARATION | <p>Prepare a short presentation on examining the male genitals.</p> <p>Identify a male volunteer who will allow you to examine his genitals in front of the class or small groups of students.</p> <p>Arrange for the students to practice examining the genitals of male patients in the hospital wards.</p> <p>Assign one patient to each student.</p> <p>Tell the students to read the section on examining the male genitals in Unit 2 of the Student Text. Ask the students to answer the review questions about examining the male genitals.</p> |

TIME: 1 hr 50 min

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Demonstrate and discuss how to examine the male genitals. Use a male volunteer for your demonstration. Either demonstrate in front of the whole group or divide the class into small groups. | 30 min |
| 2. Students go to the hospital ward to practice examining the genitals of male patients. | 45 min |
| 3. Students return to class and summarize what they learned during this session. | 20 min |
| 4. Assign one student to lead a discussion of the review questions about examining the male genitals. | 15 min |

ANSWERS TO REVIEW QUESTIONS

Examining the Male Genitals

1. List three areas of the male genitals that you should inspect.
 - a. *Penis*
 - b. *Scrotum*
 - c. *Groin*
2. Describe at least four abnormal signs that you might find when you inspect the male genitals.
 - a. *Foreskin will not retract*
 - b. *Lesion, lump, or sore*
 - c. *Discharge*
 - d. *Swelling*
 - e. *Redness*
3. List three parts of the male genitals that you should feel when you palpate the scrotum.
 - a. *Skin of the scrotum*
 - b. *Testes*
 - c. *Spermatic cord*
4. Describe how to palpate the prostate gland.

Ask the patient to lean over the table. Lubricate the right forefinger of the glove. Gently push the end of your finger against the patient's anus. The anus will contract. Wait until you feel the anus relax. Ask the patient to push down as if he were moving his bowels. Slip your finger gently into his rectum. Feel the prostate gland on the front wall of the rectum.
5. List six abnormal signs that you might find when you palpate the male genitals.

- a. Thickened or swollen scrotal wall*
- b. Tenderness of the scrotum*
- c. One testis smaller than the other*
- d. Lumps or twists on the spermatic cord*
- e. Enlarged and tender lymph glands in the groin*
- f. Tender, soft prostate gland*

Teaching Plan 14

Examining the Arms and Legs and the Musculoskeletal System

| | |
|------------|---|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe how to prepare a patient for examining the arms and legs and the musculoskeletal system.2. Describe how to examine the arms and legs and the musculoskeletal system.3. Describe the normal and abnormal signs that can be detected when examining the arms and legs and the musculoskeletal system.4. Examine the arms and legs and the musculoskeletal systems of other students. |
|------------|---|

| | |
|---------|---|
| METHODS | Self-instruction, instructor presentation, demonstration, work in pairs |
|---------|---|

| | |
|-----------|-----------------------|
| MATERIALS | Student Text – Unit 2 |
|-----------|-----------------------|

| | |
|-------------|--|
| PREPARATION | <p>Prepare short presentations on examining the arms and legs and the musculoskeletal system.</p> <p>Tell the students to read the sections on examining the arms and legs and the musculoskeletal system in Unit 2 of the Student Text. Ask the students to answer the review questions about examining the arms and legs and the musculoskeletal system.</p> |
|-------------|--|

TIME: 2 hrs 20 min

LEARNING ACTIVITIES

| | |
|---|--------|
| 1. Demonstrate and discuss how to examine a patient's arms and legs. | 15 min |
| 2. Divide the class into pairs. Ask each student to practice examining another student's arms and | 15 min |

| | TIME |
|---|--------|
| legs. First one student examines and then the other. | |
| 3. Students summarize what they learned during this activity. | 10 min |
| 4. Assign one student to lead a discussion of the review questions about examining arms and legs. | 10 min |
| 5. Demonstrate and discuss how to examine a patient's musculoskeletal system. | 30 min |
| 6. Students work in pairs to practice examining the musculoskeletal system. Students summarize what they learned during this activity. One student leads a discussion of the review questions about examining the musculoskeletal system. | 60 min |

ANSWERS TO REVIEW QUESTIONS

Examining the Arms and Legs

1. What are you looking for when you examine the arms and legs?

Edema

2. How can you detect edema of an arm or leg?

Press the skin firmly but gently at the arms, hands, legs, ankles, feet, and back. Notice if your fingers leave an impression in the skin.

ANSWERS TO REVIEW QUESTIONS

Examining the Musculoskeletal System

1. List the methods that you should use when you examine the musculoskeletal system.

- a. Inspect*
- b. Palpate*

2. List the parts of the body that you should examine as part of the musculoskeletal system.

All of the body, but especially the:

- a. Neck*
- b. Shoulders*
- c. Arms*
- d. Hips*
- e. Knees*
- f. Legs*
- g. Ankles*
- h. Feet*
- i. Spine*

3. Describe how to check for movement of the joints.

Ask the patient to stand. Stand in front of the patient. Ask the patient to move these joints, one by one, in all possible positions:

- a. Neck*
- b. Shoulders*
- c. Elbows*
- d. Wrists*
- e. Fingers*
- f. Hips*

- g. Knees*
- h. Ankles*
- i. Toes*
- j. Spine*

4. List at least four abnormal signs that you might find when you examine the spine.

- a. Flattening of the curves of the spine*
- b. Increase of the curves of the spine*
- c. Spine curves to one side*
- d. Muscle wasting*
- e. Limited movement*
- f. Pain*

5. List four abnormal signs that you might find when you palpate the joints.

- a. Rough sensation*
- b. Limited movement*
- c. Swelling*
- d. Warmth over a swollen joint*

Teaching Plan 15

Examining the Nervous System

| | |
|-------------|--|
| OBJECTIVES | <ol style="list-style-type: none">1. Describe how to prepare a patient for examining the nervous system.2. Describe how to examine the nervous system.3. Describe the normal and abnormal signs that can be detected when examining the nervous system.4. Examine the nervous system of other students. |
| METHODS | Self-instruction, instructor presentation, demonstration, work in pairs |
| MATERIALS | Student Text – Unit 2, one pin and one piece of cotton for each student, one bar of soap |
| PREPARATION | <p>Prepare a short presentation on examining the nervous system.</p> <p>Tell students to read the section on examining the nervous system in Unit 2 of the Student Text. Ask the students to answer the review questions about examining the nervous system.</p> |

TIME: 1 hr 50 min

LEARNING ACTIVITIES

| | |
|--|--------|
| 1. Demonstrate and discuss how to examine a patient's nervous system. | 30 min |
| 2. Ask each student to practice examining another student's nervous system. First one student examines and then the other. Remind the students to wash the pin with soap and water before testing sensation. | 40 min |

| | TIME |
|--|--------|
| 3. Students summarize what they learned during this session. | 20 min |
| 4. Assign one student to lead a discussion of the review questions about examining the nervous system. | 20 min |

ANSWERS TO REVIEW QUESTIONS

Examining the Nervous System

1. List five things that you should check for when you examine the nervous system.

- a. Muscle strength*
- b. Sensation*
- c. Enlarged nerves*
- d. Nerve tenderness*
- e. Irritation of the membranes that cover the brain and spinal cord*

2. Describe how to check for muscle strength in these areas.

Upper arms: *Ask the patient to bend his elbows slightly. Try to push down on his lower forearms.*

Thighs: *Tell the patient to try to push his knees together as you are trying to separate them.*

Hands: *Place two of your fingers in each of the patient's hands. Ask him to squeeze.*

3. Describe at least one method for checking sensation.

- a. Ask the patient to close his eyes. Brush the skin of his face, arms, abdomen, back, thighs, and lower legs lightly with a piece of cotton. Touch one side of the body and then the other. Ask the patient where he can feel the light brush of the cotton.*
- b. Wash a pin with soap and water. Ask the patient to close his eyes. Tell the patient that you are going to prick his skin lightly. Prick very lightly first one side and then the other side of the face, arms, abdomen, back, thighs, calves, and feet. Ask the patient where he can feel the prick.*

4. List five areas where you should check for nerve enlargement.

- a. Neck*

- b. Elbow*
 - c. Wrists*
 - d. Knees*
 - e. Ankles*
5. Describe at least one method for detecting nerve tenderness.
- a. Tenderness over the sciatic nerve – Ask the patient to lie down on the table on his right side. Press over the sciatic nerves in both buttocks.*
 - b. Straight leg raising – Ask the patient to lie on his back. Ask him to lift first his right leg and then his left leg straight up.*
6. Describe how to detect irritation of the membranes that cover the brain and spinal cord.
- Ask the patient to lie on his back. Lift the patient's head. Feel for resistance.*
7. List at least six abnormal signs that you might find in a nervous system examination.
- a. Muscle weakness in one or both sides of the body*
 - b. Loss of sensation to light touch or to pin prick*
 - c. Nerve enlargement*
 - d. Tenderness over the sciatic nerves*
 - e. Pain on straight leg raising*
 - f. Neck stiffness*
 - g. Painful neck movement*

Teaching Plan 16

Examining the Female Genitals

The procedure for examining the female genitals will be taught with the Problems of Women module. Refer to Teaching Plans 1 and 2 in the Problems of Women module for objectives, methods, materials, preparation, and learning activities.

ANSWERS TO REVIEW QUESTIONS

Examining the Female Genitals

1. Describe how you should prepare a woman for an examination of her genitals.

Ask the woman to lie on her back. Ask her to bend her knees and to rest her feet on the table. Ask her to move her buttocks down to the edge of the table and to spread her legs as far apart as possible.

2. What can you do to make a woman comfortable during an examination of her genitals?

Warm the vaginal speculum.

3. Name five parts of the female genitals that you should inspect.

- a. *Labia*
- b. *Urethra*
- c. *Vaginal opening*
- d. *Vagina*
- e. *Cervix*

4. List at least four abnormalities that you might find when you inspect the female genitals.

- a. *Swelling*
- b. *Change in color*
- c. *Discharge*
- d. *Scars*
- e. *Open cervix*
- f. *IUD strings not visible when IUD is supposed to be in place*

5. Describe how to insert a vaginal speculum.

Turn the speculum so that the blades open towards the walls. Make sure the blades are closed. Separate the lips over the vagina. Gently insert the speculum into the vagina.

6. Name two areas of the female genitals that you should palpate.
 - a. *Uterus*
 - b. *Adnexal areas*

7. List five abnormal signs that you might find when you palpate the female genitals.
 - a. *Tenderness when the uterus is moved*
 - b. *Enlarged, non-pregnant uterus*
 - c. *Irregularly shaped uterus*
 - d. *Soft uterus*
 - e. *Mass in the uterus*

Teaching Plan 17

Review of the Physical Examination

| | |
|-------------|--|
| OBJECTIVE | Describe the recommended steps for performing a physical examination. |
| METHODS | Self-instruction, instructor presentation, discussion |
| MATERIALS | Student Text - Unit 2 |
| PREPARATION | Prepare to review the sequence and steps for doing a physical examination. |

TIME: 35 min

LEARNING ACTIVITY

Review and discuss the sequence and steps for performing a physical examination.

35 min

Teaching Plan 18

Using the Practice Guide for Performing an Adult Physical Examination

| | |
|-------------|--|
| OBJECTIVE | Discuss how to use the practice guide for performing an adult physical examination. |
| METHODS | Self-instruction, instructor presentation, discussion |
| MATERIALS | Practice guide for performing an adult physical examination |
| PREPARATION | <p>Prepare a brief presentation on how to use the practice guide for performing an adult physical examination.</p> <p>Reproduce copies of the practice guide for performing an adult physical examination for the class.</p> |

TIME: 35 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Make a presentation and lead a discussion on how to use the practice guide for performing an adult physical examination. Encourage the students to continue to use the practice guide when they examine other students or patients. | 20 min |
| 2. The students summarize what they learned during this session. | 15 min |

Teaching Plan 19

Recording an Adult Physical Examination

| | |
|-------------|---|
| OBJECTIVE | Record an adult physical examination on a practice sheet. |
| METHODS | Self-instruction, demonstration, discussion, practice recording an adult physical examination |
| MATERIALS | Student Text – Unit 3, practice sheet for recording an adult physical examination |
| PREPARATION | <p>Reproduce copies of the practice sheet for the class.</p> <p>Prepare a brief presentation on how to use the practice sheet for recording an adult physical examination.</p> <p>Identify a person who will allow you to examine him in front of the class.</p> <p>Tell the students to read Unit 3 in the Student Text.</p> |

TIME: 2 hrs 30 min

LEARNING ACTIVITIES

| | |
|--|--------|
| 1. Make a presentation and lead a discussion on how to record an adult physical examination on a practice sheet. | 30 min |
| 2. Tell the students that you will examine a volunteer. The students are to watch as you perform the examination. Tell the students your findings. The students are to take notes on the information that you provide. The students will use their notes to record the findings on the practice sheet. | 10 min |

| | TIME |
|--|--------|
| 3. Examine the volunteer. | 45 min |
| 4. The students review their notes and record the findings on the practice sheet. | 30 min |
| 5. Ask one student to read what he has written on the practice sheet. Ask the other students to comment on what was written. | 20 min |
| 6. The students summarize what they learned during this session. | 15 min |
| 7. Collect the completed practice sheets. Read the sheets and make comments. Return the sheets to the students. | |

Teaching Plan 20

Performing and Recording an Adult Physical Examination

OBJECTIVES

1. Demonstrate how to prepare and use the equipment for an adult physical examination.
2. Demonstrate how to prepare an adult for a physical examination.
3. Perform an adult physical examination. Examine these areas and systems:

| | |
|--------------------|------------------------|
| Vital signs | Neck |
| Urine | Respiratory system |
| General appearance | Heart |
| Skin | Breasts |
| Lymph glands | Abdomen |
| Head | Male genitals |
| Eyes | Arms and legs |
| Ears | Musculoskeletal system |
| Nose | Nervous system |
| Mouth and throat | Female genitals |

4. Identify normal and abnormal signs that can be detected during a physical examination.
5. Record an adult physical examination on the practice sheet.

METHODS

Self-instruction, instructor presentation, discussion, practice examination, role-play, student presentation

MATERIALS

Student Text- Units 2, 3, and 4; adult physical examination skill checklist; practice guide for performing an adult physical examination; practice sheet for recording an adult physical examination

PREPARATION Reproduce copies of the adult physical examination skill checklist and the practice sheet for recording an adult physical examination for the class.

Remind the students to bring their copies of the practice guide for performing an adult physical examination.

Prepare to have a review session to cover preparing and using equipment for a physical examination, preparing a patient for a physical examination, performing an adult physical examination, using the practice guide for performing an adult physical examination, and recording an adult physical examination.

Prepare to discuss how to use the adult physical examination skill checklist.

Tell the students to read Unit 4 in the Student Text and to review Units 2 and 3.

TIME: 6 hrs 5 min

LEARNING ACTIVITIES

| | |
|--|-------------|
| 1. Review preparing and using equipment for a physical examination, preparing a patient for a physical examination, performing an adult physical examination, and recording an adult physical examination. | 30 min |
| 2. Review the use of the practice guide for performing an adult physical examination. Remind the students that they may refer to the practice guide when they perform physical examinations. | 10 min |
| 3. Make a presentation and lead a discussion on how to use the adult physical examination skill checklist. | 15 min |
| 4. Divide the class into groups of three. Ask one student to be the health worker, one student to be the patient, and one student to be an observer. The health worker examines the patient, using the | 1 hr 20 min |

TIME

| | |
|---|-------------|
| practice guide as necessary. The observer checks the skill of the health worker, using the adult physical examination skill checklist. At the end of the physical examination, the observer makes comments. The three students discuss the physical examination, comment on good practices, and make suggestions for improvement. | |
| 5. The students summarize the role-play physical examinations. Discuss good practices and make suggestions for improvement. | 20 min |
| 6. Have the students switch roles. Repeat the exercise. | 1 hr 20 min |
| 7. Have the students switch roles again. Repeat the exercise for the third time to give each student a chance to play each role. | 1 hr 20 min |
| 8. The students summarize what they learned in the role-play. | 20 min |
| 9. Have each student record on the practice sheet his physical examination findings. Collect the completed practice sheets for corrections and comments. Return the sheets to the students. | 30 min |

Teaching Plan 21

Performing and Recording an Adult Physical Examination; Skill Development

| | |
|-------------|--|
| OBJECTIVES | <ol style="list-style-type: none">1. Prepare and use the equipment for an adult physical examination.2. Prepare patients for physical examinations.3. Examine adult patients.4. Describe the normal and abnormal findings of an adult physical examination.5. Record adult physical examinations. |
| METHODS | Supervised clinical practice |
| MATERIALS | Adult physical examination skill checklist, practice guide for performing an adult physical examination, evaluation records |
| PREPARATION | <p>The skill development practice for performing adult physical examinations is coordinated with the skill development practice for taking adult medical histories. Refer to the student guides in the Medical History and the Physical Examination modules for entry level skills and knowledge. Also refer to Teaching Plan 10 in the Medical History module.</p> <p>Arrange to place two to three students in each hospital ward or in the outpatient department. Arrange for clinical supervision. It is preferable to have at least one supervisor for every three students.</p> <p>This will be the first time that students will be on the hospital wards or in the outpatient departments. Prepare to introduce the students to the staff.</p> |

Arrange to have someone from the staff introduce the students to hospital ward or outpatient department policies and practices. Arrange to have someone show the students where the supplies are kept.

TIME: 1 week

LEARNING ACTIVITIES

1. Introduce students to hospital ward or outpatient clinic staff. The chosen staff member will introduce students to policies and practices. The staff member will show students where the supplies are kept.
2. Students perform adult physical examinations. Students record the findings on practice sheets in the recommended way.
3. Students turn in their physical examination records to their supervisors for comment.
4. Students are evaluated at least twice on performing adult physical examinations.

Teaching Plan 22

Review of the Clinical Practice Experience

| | |
|-------------|---|
| OBJECTIVE | Review the clinical practice experience. |
| METHOD | Discussion |
| PREPARATION | Prepare to lead a discussion about the students' experiences during their clinical practice week. |

TIME: 1 hr

LEARNING ACTIVITY

Lead a discussion about the students' experiences during clinical practice. Discuss:

- Patients that the students interviewed and examined during the week
- Problems the students encountered and suggestions for solving the problems
- Successes and experiences that increased the students' learning
- Techniques that can be improved before the next clinical practice
- What the students learned during the week

1 hr

Teaching Plan 23

Making a Diagnosis

| | |
|-------------|---|
| OBJECTIVE | Describe how to make a diagnosis |
| METHODS | Self-instruction, instructor presentation, discussion |
| MATERIALS | Student Text– Unit 6, practice guide for taking an adult medical history, practice guide for performing an adult physical examination, Patient Card |
| PREPARATION | Reproduce copies of the Patient Card for the class. |

TIME: 40 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Make a presentation and lead a discussion on how to make a diagnosis. | 30 min |
| 2. Students summarize what they learned during this session. | 10 min |

Teaching Plan 24

Performing and Recording a Brief Medical History and Physical Examination

| | |
|-------------|--|
| OBJECTIVES | <ol style="list-style-type: none">1. Perform a brief medical history and physical examination.2. Record a brief medical history and physical examination. |
| METHODS | Self-instruction, instructor presentation and demonstration, discussion, role-play |
| MATERIALS | Student Text– Unit 6, practice guide for taking an adult medical history, practice guide for performing an adult physical examination, Patient Card |
| PREPARATION | <p>Reproduce copies of the Patient Card for the class.</p> <p>Prepare a presentation on how to perform and record a brief medical history and physical examination.</p> <p>Identify a person who will allow you to interview and examine him in front of the class.</p> <p>Tell the students to read Unit 6 in the Student Text.</p> |

TIME: 2 hrs 50 min

LEARNING ACTIVITIES

| | |
|---|--------|
| 1. Make a presentation and lead a discussion on how to take a brief medical history and perform a brief physical examination. | 20 min |
| 2. Perform a brief medical history and physical examination using a volunteer. | 15 min |

| | TIME |
|--|--------|
| 3. Discuss the demonstration of a brief medical history and physical examination. | 15 min |
| 4. Make a presentation and lead a discussion on how to record a brief medical history and physical examination on the Patient Card. | 20 min |
| 5. Divide the class into pairs. Ask one student to be the health worker and the other to be the patient. Tell each health worker to practice taking a brief medical history and doing a brief physical examination. Tell the patient to comment on the performance of the health worker. | 40 min |
| 6. Ask the students to switch roles. The student who was the patient now becomes the health worker. The new health worker practices performing a brief medical history and physical examination. The patient comments on the performance of the health worker. | 40 min |
| 7. Have the students record the brief medical history and physical examination on the Patient Card. Collect the cards for comment. Return the cards to the students. | 20 min |

Teaching Plan 25

Performing and Recording a Child Physical Examination

The child physical examination will be taught with the Diseases of Infants and Children module. Refer to Teaching Plans 1 and 2 in the Diseases of Infants and Children module for objectives, methods, materials, preparation, and learning activities.

ANSWERS TO REVIEW QUESTIONS

Performing and Recording a Child Physical Examination

1. List as many of the steps for doing a child physical examination as you can.
 - a. *Arrange on a table within easy reach all of the equipment that you will use during the examination.*
 - b. *Prepare the child for the physical examination.*
 - c. *Inspect the child's general appearance.*
 - d. *Check the child's development skills.*
 - e. *Examine the child's:*

| | |
|---------------------------|------------------------------------|
| <i>Skin</i> | <i>Abdomen</i> |
| <i>Lymph glands</i> | <i>Neck</i> |
| <i>Head</i> | <i>Musculoskeletal and nervous</i> |
| <i>Eyes</i> | <i>systems</i> |
| <i>Ears</i> | <i>Arms and legs</i> |
| <i>Nose</i> | <i>Male genitals</i> |
| <i>Heart</i> | <i>Female genitals</i> |
| <i>Respiratory system</i> | <i>Mouth and throat</i> |
 - f. *Take the vital signs*
 - g. *Explain the findings to the parent.*
 - h. *Record the physical examination.*
2. Describe how to prepare a child for a physical examination.
 - a. *Choose a private area in which to examine the child. Provide a place for the child to sit and lie down. Let the young child sit on his parent's lap.*
 - b. *Ask the parent to assist during the examination as much as possible.*
 - c. *Explain to the parent and the child the purpose of the examination. Describe what you will be doing.*

- d. Show the child each item of equipment before you use it.*
 - e. Do not use quick or hurried movements.*
 - f. Talk to the child as much as possible.*
 - g. Ask the parent to undress the child. Provide a drape.*
3. A mother brings in a child who has had diarrhea for three days. List the most important areas and systems that you should examine.
- a. General appearance*
 - b. Skin*
 - c. Ears*
 - d. Mouth and throat*
 - e. Respiratory*
 - f. Heart*
 - g. Abdomen*
 - h. Vital signs*
4. A mother brings in a six-year-old child. The child complains of feeling hot and tired. His right wrist and left knee are painful and swollen. You saw the child three weeks ago for tonsillitis and gave him penicillin. His mother gave him only three days of the treatment. What are the most important areas and systems that you should examine?
- a. General appearance*
 - b. Skin*
 - c. Mouth and throat*
 - d. Respiratory*
 - e. Heart*
 - f. Musculoskeletal*
 - g. Vital signs*
5. Describe how to test the skill development of a twelve-month-old child.
- Social skills:* *Fill a cup with liquid. Give the cup to the child's parent. Ask her to give it to the child to drink from.*

- Physical skills:*
- a. *Ask the parent to bring the child to a standing position. Ask her to let go of the child to see if he stands alone.*
 - b. *Ask the parent to take the child's hand and help him walk.*
 - c. *Put a small object like a pumpkin seed, a raisin, or a small piece of fruit in front of the child. Have the parent encourage the child to pick it up.*
 - d. *Tell the parent to bang together the cup and the spoon. Have her give the cup and the spoon to the child and encourage him to bang the cup and the spoon together.*

Language skills: *Observe whether the child says "Mama" correctly to the mother.*

6. Describe how to test the vision of a twelve-month-old child.

Hold a bright, shiny object in front of the child. Notice if the child looks at it and reaches for it.

7. List at least two abnormal signs that you might find in each of these areas when you examine a five-year-old child.

General appearance:

State of health

Listless, sad, drooping appearance
Child shows obvious signs of distress
Uncontrollable crying and writhing

State of nutrition

Extreme thinness
Obesity

Behavior

Unusual behavior
Strange movements
Shaking or rocking

Mental state

Child is sluggish
Child does not respond when you speak to him

Skin:

Color change, lesions, edema, tenderness, texture change, dehydration or
swelling, hot and dry skin surface, cool and damp skin surface

Eyes:

Inability to see; red, swollen, puffy, or drooping eyelids; tearing or discharge; red, inflamed conjunctivae; pale conjunctivae; dryness or gray spots; cuts or ulcers; red or yellow sclerae; white spots on the cornea; irregularly shaped pupils; pupils that differ in size; pupils that do not react to light; white cloudy lenses

Respiratory system:

Change in rate or rhythm of breathing, difficulty breathing, noisy breathing, cyanosis, barrel chest, uneven chest expansion, intercostal retractions, flaring nostrils, chest wound, cough, sputum, lumps or depressions along the ribs, grating sensation along the ribs, chest tenderness, flat percussion note, prolonged inspiration, abnormal breath sounds

Heart:

Decreased heart sounds, heart sounds cannot be heard, unclear first or second heart sounds, irregular or missed beats, murmurs

Abdomen:

Irregular abdominal shape; abdominal breathing after age three; scars on the abdomen; absent, increased, or decreased abdominal sounds; abdominal mass or tenderness; enlarged liver, spleen, kidneys, or bladder; shifting dullness

8. TRUE (T) or FALSE (F)

- F You should examine all children on an examination table.
- F A three-year-old child has to be lying down when you palpate his abdomen.
- T You do not use a nasal speculum to inspect a child's nose unless you are removing a foreign body.
- F You palpate a child's abdomen before you auscultate.
- T It is normal to find small, moveable, non-tender lymph glands up to 3 mm in the neck of a four-year-old child.
- F The posterior fontanelle usually closes at eighteen months.

The MEDEX Primary Health Care Series
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